SONY

4-229-805-**43**(1)

Mini Hi-Fi Component System

Operating Instructions

MHC-ZX70DVD

©2000 Sony Corporation

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

Do not install the appliance in a confined space, such as a bookcase or built-in cabinet.

CAUTION

The use of optical instruments with this product will increase eye hazard. As the laser beam used in this CD/DVD Player is harmful to eyes, do not attempt to disassemble the cabinet.
Refer servicing to qualified personnel only.

CAUTION : VISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
ADVARSEL : SYNLIG LASERSTRÅLING VED ÅBNING. UNDGÅ UDSÆTTELSE FOR STRÅLING.
VORSICHT : SICHTBARE LASERSTRAHLUNG WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.
VARO ! : NÄKYVÄÄ AVATTAESSA OLET ALTTIINA LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
VARNING : SYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. STRÅLEN ÄR FARLIG.
ADVARSEL : SYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES. UNNGÅ EKSPONERING FOR STRÅLEN.
FIGYELEM : A BURKOLAT MEGBONTÁSAKOR LÁTHATÓ LÉZERSUGÁR LÉPHET KI A KÉSZÜLÉKBÖL. ÓVAKODJON A KÖZVETLEN LÉZERSUGÁRTÓL !

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

This stereo system is equipped with the Dolby B-type noise reduction system*.

* Manufactured under license from Dolby Laboratories Licensing Corporation.
  DOLBY and the double-D symbol ◻◻ are trademarks of Dolby Laboratories Licensing Corporation.

IMPORTANT NOTICE

Caution: The enclosed DVD player is capable of holding a still video image or on-screen display image on your television screen indefinitely. If you leave the still video image or on-screen display image displayed on your TV for an extended period of time you risk permanent damage to your television screen. Projection televisions are very susceptible.

This system incorporates Dolby* Digital and Pro Logic Surround.

* Manufactured under license from Dolby Laboratories.
  "Dolby", "AC-3", "Pro Logic" and the double-D symbol ◻◻ are trademarks of Dolby Laboratories.
  Confidential unpublished Works. © 1992-1997 Dolby Laboratories, Inc. All rights reserved.

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* North American and European models only
** European model only
***Asian model only

This Player Can Play the Following Discs

DVD VIDEOs

Disc logo:

Contents: Audio + Video

Disc size and play time:

- 12 cm:
  About 4 h (for single-sided DVD)/ about 8 h (for double-sided DVD)
- 8cm:
  About 80 min. (for single-sided DVD)/about 160 min. (for double-sided DVD)

* “DVD VIDEO” logo is a trademark.

VIDEO CDs

Disc logo:

Contents: Audio + Video

Disc size and play time:

- 12 cm: 74 min.
- 8 cm: 20 min.

Audio CDs

Disc logo:

Contents: Audio

Disc size and play time:

- 12 cm: 74 min.
- 8cm (CD single): 20 min.

Discs that the player cannot play

The player cannot play discs other than the ones listed above. SVCD, CD-G, CD-R, CD-ROMs including PHOTO CDs, data sections in CD-EXTRAs, DVD-ROMs, etc., cannot be played.

Region code of DVDs you can play on this unit

Your DVD player has a region code printed on the back of the unit and will only play DVDs that are labeled with identical region codes.

DVDs labeled will also be played on this unit.

If you try to play any other DVD, the message “Playing this disc prohibited by area limits.” will appear on the TV screen.

Depending on the DVD, no region code indication may be labeled even though playing the DVD is prohibited by the area limits.

Note on playback operations of DVDs and VIDEO CDs

Some playback operations of DVDs and VIDEO CDs may be intentionally fixed by software producers. Since this player plays DVDs and VIDEO CDs according to the disc contents the software producers designed, some playback features may not be available. Also refer to the instructions supplied with the DVDs or VIDEO CDs.

Note on PBC (Playback Control) (VIDEO CDs)

This player conforms to Ver. 1.1 and Ver. 2.0 of VIDEO CD standards. You can enjoy two kinds of playback according to the disc type.

VCD type	You can
Without PBC functions (Ver. 1.1 discs)	Enjoy video playback (moving pictures) as well as music.
With PBC functions (Ver. 2.0 discs)	Play interactive software using menu screens displayed on the TV screen (PBC Playback), in addition to the video playback functions of Ver. 1.1 discs. Moreover, you can play high-resolution still pictures, if they are included on the disc.

Note

This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.

Terms for discs

Title

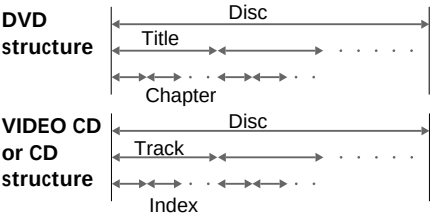
The longest sections of a picture or a music piece on a DVD; a movie, etc., for a picture piece on a video software; or an album, etc., for a music piece on an audio software. Each title is assigned a title number enabling you to locate the title you want.

Chapter

Sections of a picture or a music piece on a DVD that are smaller than titles. A title is composed of several chapters. Each chapter is assigned a chapter number enabling you to locate the chapter you want. Depending on the disc, no chapters may be recorded.

Track

Sections of a picture or a music piece on a VIDEO CD or a CD. Each track is assigned a track number enabling you to locate the track you want.



Index (CD) / Video Index (VIDEO CD)

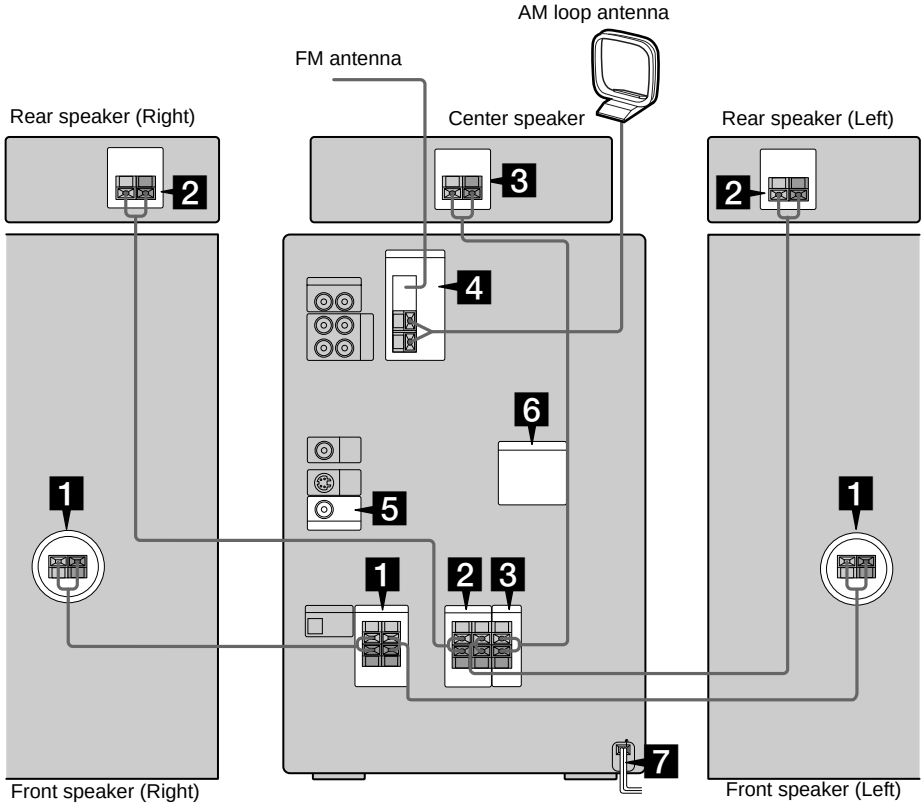
A number that divides a track into sections to easily locate the point you want on a VIDEO CD or a CD. Depending on the disc, no indexes may be recorded.

Scene

On a VIDEO CD with PBC functions, the menu screens, moving pictures, and still pictures are divided into sections called “scenes”. Each scene is assigned a scene number enabling you to locate the scene you want.

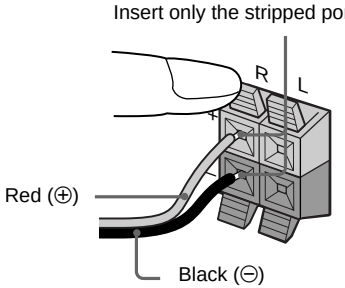
Step 1: Hooking up the system

Follow steps 1 through 9 of the following procedure to hook up your system using the supplied cords and accessories.



1 Connect the front speakers.

Connect the speaker cords of the front speakers to the FRONT SPEAKER jacks as below.

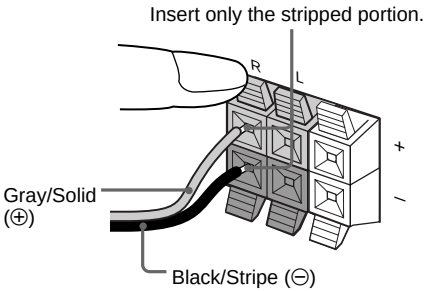


Notes

- Keep the speaker cords away from the antennas to prevent noise.
- The type of speakers supplied varies according to the model you purchased (see “Specifications” on page 97).

2 Connect the rear speakers.

Connect the speaker cords of the rear speakers to the REAR SPEAKER jacks.

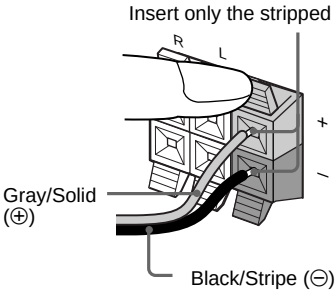


Notes

- Keep the speaker cords away from the antennas to prevent noise.
- Do not place the rear speakers on top of a TV. This may cause color distortion in the TV screen.

3 Connect the center speaker.

Connect the speaker cords of the center speaker to the CENTER SPEAKER jacks.



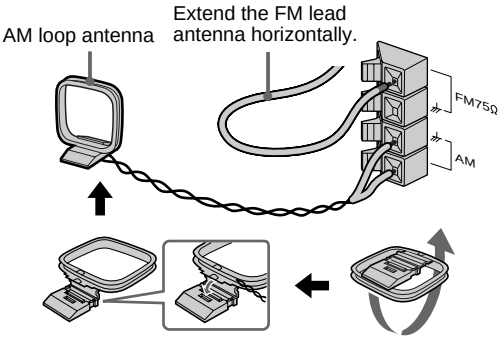
Note

Keep the speaker cords away from the antennas to prevent noise.

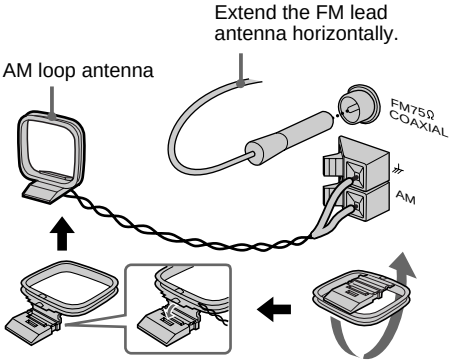
4 Connect the FM/AM antennas.

Set up the AM loop antenna, then connect it.

Jack type Ⓐ

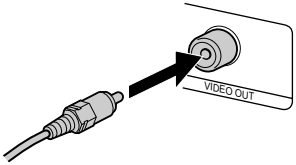


Jack type Ⓑ



continued

5 Connect the video input jack of your TV to the VIDEO OUT jack with the supplied video cable.

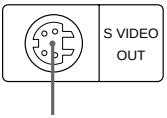


When using a TV

Turn on the TV and select the video input so you can view the pictures from this system.

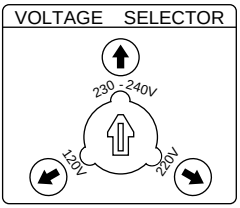
Tip

For even higher quality video images, you can use an optional S-video cable to connect the S VIDEO input jack on your TV to the S VIDEO OUT jack.



To the S VIDEO input of the TV

6 For models with a voltage selector, set VOLTAGE SELECTOR to the position of your local power line voltage.



7 Connect the power cord to a wall outlet.

If the supplied adapter on the plug does not fit your wall outlet, detach it from the plug (only for models equipped with an adapter).

8 (Asian model only)

Set the color system according to your TV. The factory setting is NTSC. Each time you perform the procedure below, the color system changes as follows:

NTSC ⟷ PAL

1 Press I/⏻ to turn the system on.
2 Press FUNCTION repeatedly until "DVD" appears in the display.
3 Press ■.
4 Press I/⏻ while holding down NEXT.
The system turns off.
5 Press I/⏻ to turn on the system.
The system turns on and the color system is changed.

9 Remove the dummy disc.

A dummy disc is placed in the DISC 1 tray at shipment to prevent damage to the system during transportation. Before using the system for the first time, remove the dummy disc following the steps below.

1 Press I/⏻ to turn on the system.
2 Press ⏏ 1 and remove the dummy disc from the disc tray.
3 Press ⏏ 1 to close the disc tray.

Notes on the dummy disc

- You must use the dummy disc for protection when transporting the system. Be sure to keep the dummy disc in a secure place (page 90).
- There are no signals recorded on the dummy disc.

To connect optional components

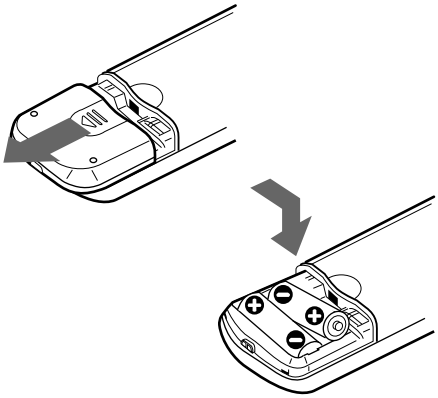
See page 86.

To deactivate/activate the demonstration

When you set the time (“Step 3: Setting the time” on page 12), the demonstration is deactivated.

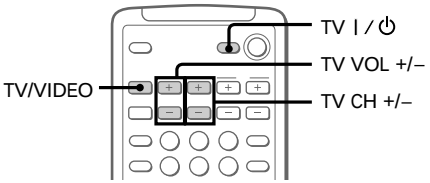
To activate/deactivate the demonstration again, press DISPLAY repeatedly while the system is off.

Inserting two size AA (R6) batteries into the remote



Using the remote

You can use the shaded buttons shown below to operate a Sony TV.



To	Press
Turn the TV on or off	TV I/⏻.
Switch the TV's video input	TV/VIDEO.
Change the TV channels	TV CH +/–.
Adjusts the volume of the TV speaker(s)	TV VOL +/–.

Tip

With normal use, the batteries should last for about six months. When the remote no longer operates the system, replace both batteries with new ones.

Note

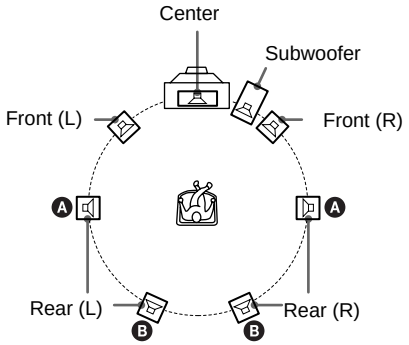
If you do not use the remote for a long period of time, remove the batteries to avoid possible damage from battery leakage.

Step 2: Setting up your speakers

Connecting the supplied rear and center speakers enables you to fully enjoy Dolby Digital and Dolby Pro Logic Surround sound. Dolby Pro Logic Surround is a decoding system standardized in TV programs and movies. Dolby Pro Logic Surround improves the sound image by using four separate channels. These channels manipulate the sound to be heard and enhance the action on the TV screen.

When you have finished setting up the speakers and adjusting the balance and level (see page 11), be sure to perform the on-screen setup (see "Speaker settings" on page 21).

Positioning the speakers



* You can connect an optional subwoofer speaker (see page 87).

Each speaker should face the listening position. Better surround effects will result if all speakers are set at the same distance from the listening position.

Place the front speakers at a suitable distance to the left and right of the television. The height of the front speakers should be adjusted to about the center of the TV screen.

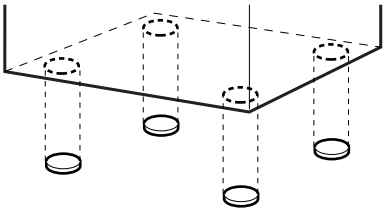
Place the center speaker on the top of the TV set.

The placement of rear speakers greatly depends on the configuration of the room. The rear speakers may be placed on both sides of the listening position Ⓐ or behind the listening position Ⓑ.

When you connect the subwoofer, place it on either side of the television.

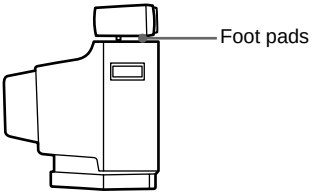
Attaching the front speaker pads

Attach the supplied speaker pads to the bottom of the front speakers to stabilize the speaker and prevent it from slipping.



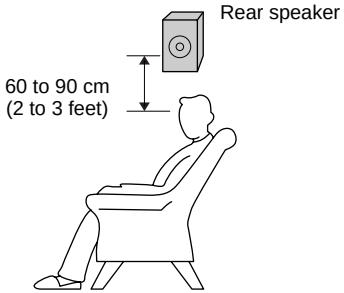
Setting the center speaker

Set the center speaker firmly on top of the TV set, making sure it is completely level.



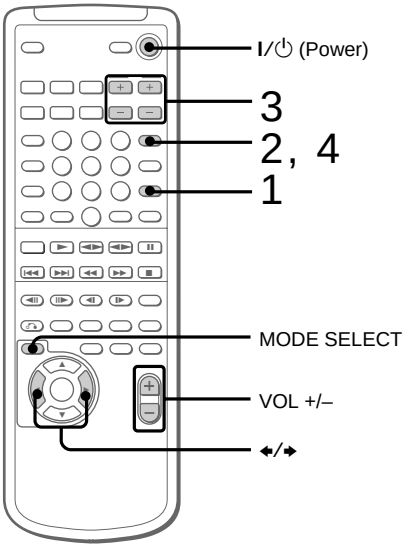
Setting the rear speakers

Place the rear speakers facing each other at about 60 to 90 cm (2 to 3 feet) above your listening position.



Adjusting the balance/level

Follow the procedure on this page to adjust the balance and levels of each of the speakers for enjoyment of Dolby Pro Logic Surround sound from functions other than DVD. You cannot perform the procedure below when the function is set to “DVD”. For playback of DVDs, VIDEO CDs, and CDs, see “Adjusting the speaker balance/level” on page 22 to make adjustments.



1 Press PRO LOGIC ON/OFF.
“PRO LOGIC ON” appears.

2 Press T.TONE ON/OFF on the remote.
Each speaker will emit a test tone in the following order.

→ LEFT → CENTER → RIGHT →
← REAR L ← REAR R ←

3 From your listening position, press CENTER LEVEL (+/–) and REAR LEVEL (+/–) on the remote to adjust the volume.
For the rear level, the rear right/left speaker will emit sound.
The volume levels from each speaker should sound the same.

4 Press T.TONE ON/OFF when you are done adjusting.
The test tone turns off.

Tip

If you press VOL +/–, all the speaker volumes change.

Note

T.TONE ON/OFF on the remote can only be used to turn on the test tone feature when the Dolby Pro Logic mode is on.

To adjust the speaker balance

When you enjoy Dolby Pro Logic Surround sound, you can adjust the balance of the front speakers and the rear speakers.

1 In step 2 above, select RIGHT, LEFT, or CENTER to adjust the front balance, and select REAR R or REAR L to adjust the rear balance.
2 Press ← or → on the remote to adjust the balance.

Tip

When you enjoy Dolby Pro Logic Surround sound, you can adjust the speaker balance using the “Sound Mode” menu.

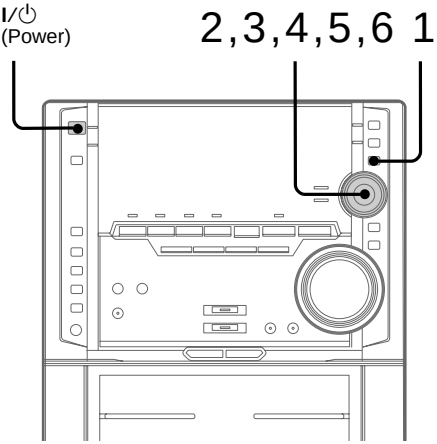
1 Press MODE SELECT repeatedly to select “Sound Mode”, then press ENTER.
2 Press ← or → repeatedly to select “Front Balance” or “Rear Balance”, then press ENTER.
3 Press ← or → repeatedly to adjust the balance, then press ENTER.

Step 3: Setting the time

You must set the time before using the timer functions.

The clock is on a 24-hour system for the European model, and on a 12-hour system for other models.

For illustration purposes, the 12-hour system model is used.



1 Press MODE SELECT when the system is turned off.

"Clock Set ?" appears.
When the system is in the Power Saving Mode, "Clock Set ?" will not appear. Either set Power Saving Mode off, or follow the steps on this page ("To change the time") after turning the power on.

2 Press PUSH ENTER.

The hour indication flashes.

3 Move the multi stick toward ↑ or ↓ repeatedly to set the hour.

4 Move the multi stick toward →.

The minute indication flashes.

5 Move the multi stick toward ↑ or ↓ repeatedly to set the minute.

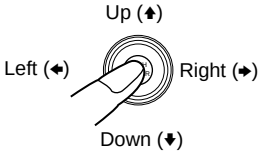
6 Press PUSH ENTER.

To cancel the menu operation

Press MODE SELECT.

Tips

- Refer to the illustration to use the multi stick. Place your finger on the center of the multi stick and move in the direction you want (up/down or left/right shown ↑/↓ or ←/→ in this manual).



- All of the functions that use the multi stick can also be performed using ↑/↓/←/→ and ENTER on the remote.
- If you've made a mistake, start over from step 1.

To change the time

The previous explanation shows you how to set the time while the power is off. To change the time while the power is on, do the following:

1 Press MODE SELECT repeatedly to select "Set Up Mode", then press PUSH ENTER.
2 Move the multi stick toward ← or → repeatedly to select "Timer Set Up ?", then press PUSH ENTER.
3 Move the multi stick toward ← or → repeatedly to select "Clock Set ?", then press PUSH ENTER.
4 Perform steps 3 through 6 on this page.

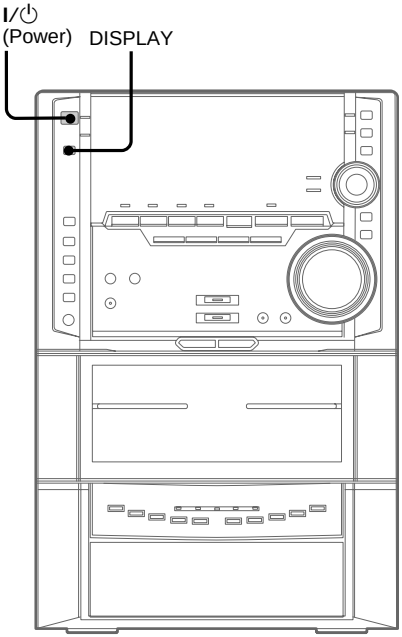
Note

The clock settings are canceled when you disconnect the power cord or if a power failure occurs.

Saving the power in standby mode

(North American and European models only)

You can lower the power consumption to a minimum (Power Saving Mode) and save energy in the standby mode.



➡ Press DISPLAY repeatedly when the power is off.

Each time you press the button, the display changes as follows:

→ Demonstration → clock →
Power Saving Mode ←

The system is turned on/off by pressing I/⏻.

Tips

- The I/⏻ indicator and timer indicator (when the timer is set) light even in the Power Saving Mode.
- The timer functions in the Power Saving Mode.

Notes

- You cannot set the time in the Power Saving Mode.
- The One Touch Play function does not work in the Power Saving Mode.

To cancel the Power Saving Mode

Press DISPLAY repeatedly to show the demonstration or the clock.

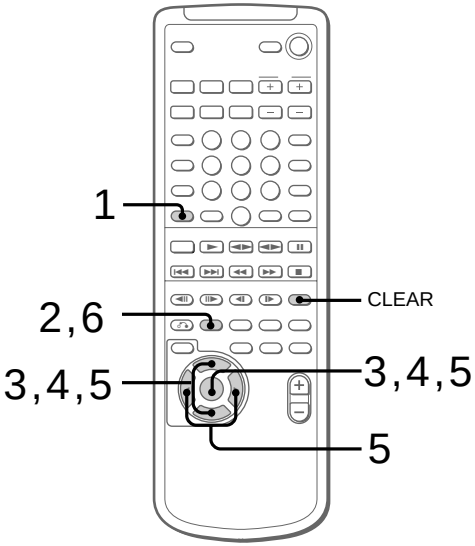
Using the Setup Display

You can adjust the picture and sound quality, set the various outputs, etc. You can also set a language for the subtitles and the setup display, limit playback by children, etc. For details on each setup display item, see pages 16 to 22.

The North American model is the model used for OSD (on-screen display) illustration purposes in this section.

Note

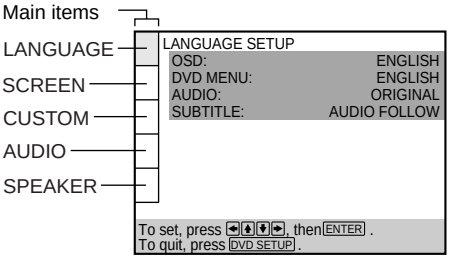
The setup display appears only in stop mode.



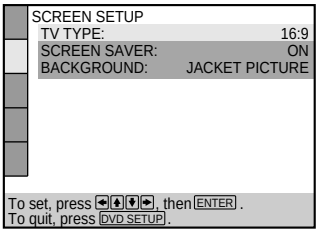
1 Press FUNCTION repeatedly until "DVD" appears in the display.

2 In the stop mode, press DVD SETUP to display the setup display on the TV screen.

The main items appear.

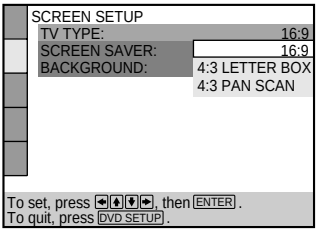


3 Press ↑ or ↓ repeatedly to select the main item you want, then press ENTER.



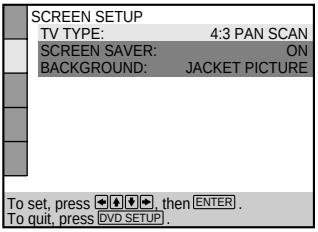
4 Press ↑ or ↓ repeatedly to select the item you want, then press ENTER.

Other settings appear for the item you select.



5 Press ←/→/↑/↓ repeatedly to select the setting you want, then press ENTER.

The setting changes to one you select.


SCREEN SETUP
TV TYPE: 4:3 PAN SCAN
SCREEN SAVER: ON
BACKGROUND: JACKET PICTURE
To set, press ←↑↓→, then ENTER.
To quit, press DVD SETUP.

6 Press DVD SETUP to exit the setup display.

To cancel using the setup display on the way

Press DVD SETUP on the remote.

Note

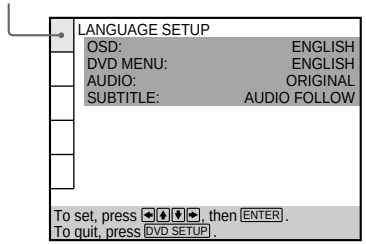
Some setup display items require operations other than selecting the setting. For details on these items, see the relevant pages.

Setting the language

— LANGUAGE SETUP

Select the language you want to use for the on-screen display and the sound from the language list.

Select here after pressing DVD SETUP on the remote.



OSD ---------- Select the language for the on-screen display from the language list displayed on the TV screen.

DVD MENU ------- Select the language for the DVD menu from the language list displayed on the TV screen.*

AUDIO ---------- Select the language you hear during DVD playback from the language list displayed on the TV screen.*
When you select “ORIGINAL”, the language given priority on the disc is used.

SUBTITLE -------- Select the language for the subtitle from the language list displayed on the TV screen.*
When you select “AUDIO FOLLOW”, the language for the subtitles changes according to the language setting you selected in “AUDIO”.

* When you select “OTHERS➡” for any of these items, select and enter the language code from the list using the number buttons (page 101). After you have made a selection, the language code (4 digits) is displayed.

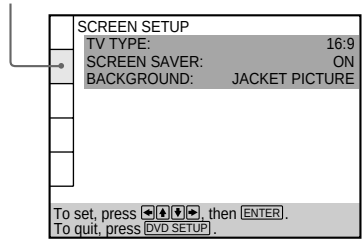
Note

When you select a language that is not recorded on the DVD, the language given priority on the disc is automatically selected except for the “OSD”.

Setting the on-screen display

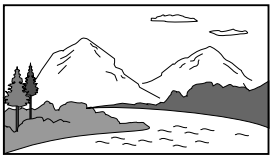
— SCREEN SETUP

Select here after pressing DVD SETUP on the remote.

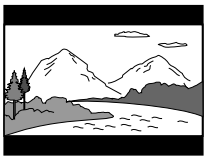


TV TYPE ---------- Select the aspect ratio of the connected TV.

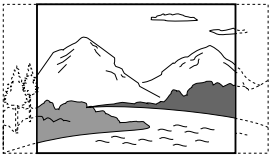
- 16:9 or 16:9/4:3 WIDE MODE: A wide-screen TV.



- 4:3 LETTER BOX: A normal TV displaying a wide picture with bands displayed on the upper and lower portions of the screen.



- 4:3 PAN SCAN: A normal TV displaying the wide picture on the whole screen with a portion automatically cut off.



continued

Note

Depending on the DVD, “4:3 LETTER BOX” may be selected automatically instead of “4:3 PAN SCAN” and vice versa.

SCREEN SAVER ---------- Turn on and off the screen saver. If you turn on the screen saver, the screen saver image appears when you leave the player or the remote in pause or stop mode for 15 minutes or when you play back a CD for more than 15 minutes. The screen saver is useful to prevent your display from becoming damaged.

- ON: Turns on the screen saver.
- OFF: Turns off the screen saver.

BACKGROUND ---------- Select the background color or picture of the TV screen in stop mode or while playing a CD.

- JACKET PICTURE: The jacket picture appears in the background, but only when the jacket picture is already recorded on the disc.
- GRAPHICS: The picture stored in memory in the player beforehand appears in the background.
- BLUE: The background color is blue.
- BLACK: The background color is black.

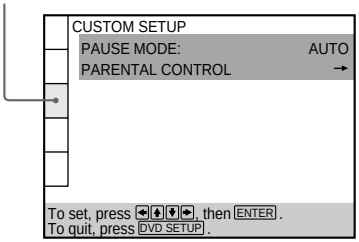
Note

If a disc which does not contain a jacket picture is played while “BACKGROUND” is set to “JACKET PICTURE”, the graphic picture stored in the player will automatically appear in the background.

Custom settings

—CUSTOM SETUP

Select here after pressing DVD SETUP on the remote.



COLOR SYSTEM (Asian model only) ------ Select the color system when you play a VIDEO CD.

- AUTO: Outputs the video signal in the system of the disc, either PAL or NTSC. If your TV uses a DUAL system, select AUTO.
- PAL: Changes the video signal of an NTSC disc and outputs it in the PAL system.
- NTSC: Changes the video signal of a PAL disc and outputs it in the NTSC system.

Notes

- You cannot change the color system of the disc itself.
- When you purchased the Asian model, you can change the color system of this unit according to the connected TV. See page 8.

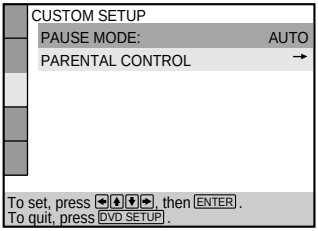
PAUSE MODE ---------- Select the picture in pause mode for DVD playback only.

- AUTO: A picture including subjects that move dynamically is output with no jitter. Normally select this position.
- FRAME: A picture including subjects that do not move dynamically is output with high resolution.

PARENTAL CONTROL ---------- Set a password and playback limitation level when you play DVDs with playback limitation for children. For details, see “Limiting playback by children (Parental Control)” on the following page.

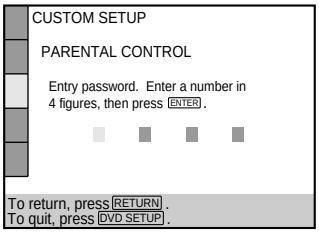
Limiting playback by children (Parental Control)

1 Press ↑ or ↓ repeatedly to select "PARENTAL CONTROL", then press ENTER.



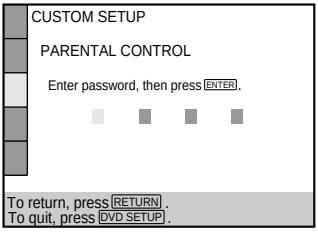
■ When you have not entered a password yet

The display for entering a password appears.


CUSTOM SETUP
PARENTAL CONTROL
Entry password. Enter a number in 4 figures, then press ENTER.
To return, press RETURN.
To quit, press DVD SETUP.

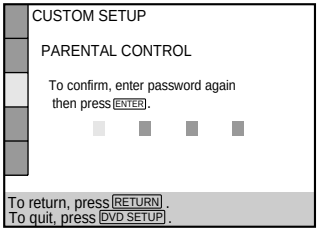
■ When you have already entered a password

The display for confirming a password appears. Skip step 2.



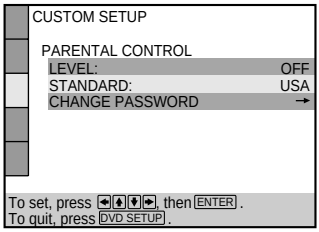
2 Enter a password in 4 digits using the numeric buttons on the remote, then press ENTER.

The display for confirming the password appears.


CUSTOM SETUP
PARENTAL CONTROL
To confirm, enter password again then press ENTER.
To return, press RETURN.
To quit, press DVD SETUP.

3 To confirm your password, enter it using the numeric buttons, then press ENTER.

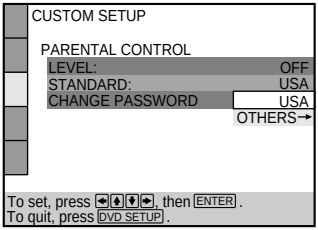
The display for setting the playback limitation level and changing the password appears.



4 Press ↑ or ↓ repeatedly to select "STANDARD", then press →.

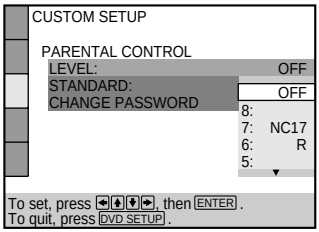
5 Press ↑ or ↓ repeatedly to select an area as the standard for the playback limitation level, then press ENTER.

When you select "OTHERS ➡", select and enter the standard code from the table on the next page using the numeric buttons.

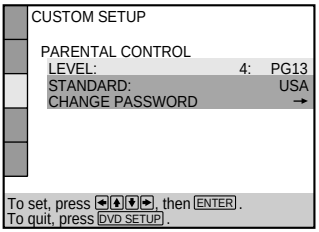


continued

6 Press ↑ or ↓ repeatedly to select "LEVEL", then press →.



7 Press ↑ or ↓ repeatedly to select the level, then press ENTER.



The lower the value is, the stricter the limitation.

To return to the normal screen

Press DVD SETUP on the remote.

To turn off the Parental Control function and play the DVD after entering your password

Set "LEVEL" to "OFF" in Step 7, then press DVD ►.

To change the password

1 After Step 3, press ↑ or ↓ repeatedly to select "CHANGE PASSWORD", then press → or ENTER.
The display for changing the password appears.

2 Follow Steps 2 and 3 to enter a new password.

Standard code

Standard	Code number
Austria	2046
Belgium	2057
Canada	2079
China	2092
Denmark	2115
Finland	2165
France	2174
Germany	2109
Hong Kong	2219
Indonesia	2238
Italy	2254
Japan	2276
Malaysia	2363
Netherlands	2376
Norway	2379
Philippines	2424
Russian	2489
Singapore	2501
Spain	2149
Sweden	2499
Switzerland	2086
Taiwan	2543
Thailand	2528
United Kingdom	2184

Tips

- You can turn off the Parental Control function just after inserting the DVD (Parental Control Temporarily Canceled).
  When you set a playback limitation level and insert the DVD, the PARENTAL CONTROL display appears. Enter the password to turn off the Parental Control function.
  When you stop playing the DVD, the level returns to the original level.
- If you have forgotten your password, enter the 6-digit number "199703" in Step 2 to clear the current password. To enter a new password, follow the procedure from Step 2 again.

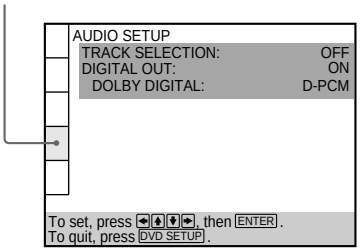
Notes

- When you play DVDs which do not have the Parental Control function, playback cannot be limited on this player.
- When you do not set a password, you cannot change the settings for playback limitation.
- Depending on the DVD, you may be asked to change the parental control level while playing the disc. In this case, enter the password, then change the level. When you stop playing the DVD, the level returns to the original level.

Setting for sound

— AUDIO SETUP

Select here after pressing DVD SETUP on the remote.



TRACK SELECTION ---------- Give the sound track which contains the highest number of channels priority when you play a DVD on which multiple audio formats are recorded. If multiple audio channels are recorded in PCM, MPEG AUDIO, or Dolby Digital format, the higher-numbered channel audio recorded in PCM, MPEG AUDIO, or Dolby Digital format is played.

- OFF: No priority given.
- AUTO: Priority given.

Notes

- When you set this item to "AUTO", the language may change depending on the "AUDIO" settings in "LANGUAGE SETUP".
  The "TRACK SELECTION" setting has higher priority than that of "AUDIO" settings in "LANGUAGE SETUP" (page 15).
- If PCM, MPEG AUDIO, and Dolby Digital sound tracks have the same highest number of channels, the player selects PCM, Dolby Digital, and MPEG AUDIO sound tracks, in this order.
- Depending on the DVD, the audio with priority may be predetermined. In this case, you cannot give priority to the MPEG AUDIO or Dolby Digital format by selecting "AUTO".

continued

DIGITAL OUT ---------- Select output signals via the DIGITAL OUT OPTICAL jack.

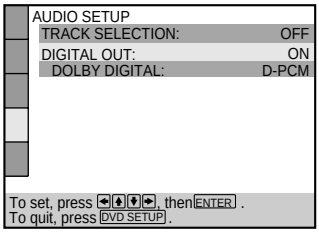
- ON: Normally select this position. When you select "ON", set "DOLBY DIGITAL". For details, see "Setting for the signal to the digital output."
- OFF: Select this when the player does not output the sound signals via the DIGITAL OUT OPTICAL jack. If you select this position, the influence of the digital circuit upon the analog one is minimum.

Notes

- When you play sound tracks with 96 kHz sampling frequency, the output signals from the DIGITAL OUT OPTICAL jack are converted to 48 kHz (sampling frequency). When the signals are output from the MD OUT jacks, the sampling frequency stays at 96kHz and the output signals are converted to analog signals.
- When you select "OFF," you cannot set "DOLBY DIGITAL".

Setting for the signal to the digital output

Switch the methods of outputting audio signals when you connect a digital component such as a receiver (amplifier), DAT, or MD via the DIGITAL OUT OPTICAL jack using an optical digital connecting cord. For details on the connection, see page 86.



DOLBY DIGITAL ---------- Select output of Dolby Digital signals via the DIGITAL OUT OPTICAL jack. You cannot select this item when you set "DIGITAL OUT" to "OFF".

- D-PCM (Downmix PCM): When you play Dolby Digital sound tracks, the output audio signals are mixed down to 2 channels.
- DOLBY DIGITAL: When the player is connected to an audio component with a built-in Dolby Digital decoder.

Notes

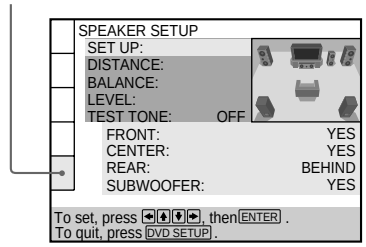
- If the player is connected to an audio component lacking a built-in Dolby Digital decoder, do not set "DOLBY DIGITAL" in "AUDIO SETUP" to "DOLBY DIGITAL." Otherwise, when you play the Dolby Digital sound track, a loud noise or no sound will come out from the speakers, affecting your ears or causing the speakers to be damaged.
- MPEG AUDIO is converted to linear PCM (LPCM) before being output.

Speaker settings

— SPEAKER SETUP

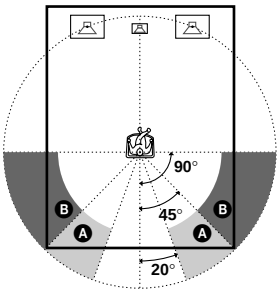
Set up your speaker system for playback of 5.1CH DVDs.

Select here after pressing DVD SETUP on the remote.



SETUP ---------- Select the rear speaker location and whether a subwoofer is connected or not.

- REAR: These items let you specify the location of your rear speakers for proper implementation of "VIRTUAL REAR SHIFT" and "VIRTUAL MULTI REAR" in the Control Menu display.
  - BEHIND (shown A)
  - SIDE (shown B)



- SUBWOOFER: Select whether a subwoofer is connected or not.
  - YES
  - NONE

Notes

- When you select an item, the sound cuts off for a moment.
- The cut off frequency for the subwoofer is fixed at 100Hz.
- Set the cut off frequency on the subwoofer as high as possible.
- Depending on the settings of other speakers, the subwoofer may output excessive sound.

DISTANCE ---------- Adjust the distance of each speaker in 0.2 meter (1 ft. for North American models) steps. For the speaker distance of North American models, refer to the distance in brackets.

- FRONT: Front speaker distance. Default is 3.6 meter (12 ft.). Adjust the distance from 1.0 to 15.0 meters (4 to 50 ft.).
- CENTER: Center speaker distance. Default is 3.6 meter (12 ft.). Distance can be set in 0.2 meter (1 ft.) steps from a distance 0.6 meter (2 ft.) farther to the front speaker to a distance 1.6 meter (6 ft.) closer to your listening position.
- REAR: Rear speaker distance. Default is 3.0 meter (10 ft.). Distance can be set in 0.2 meter (1 ft.) steps from a distance equal to the front speaker to a distance 5 meter (16 ft.) closer to your listening position.

Notes

- When you set the distance, the sound cuts off for a moment.
- If each of the front or rear speakers is not placed an equal distance from your listening position, set the distance of the closest speaker.
- Do not place the rear speakers farther away from your listening position than the front speakers.

continued

BALANCE ---------- Adjust the balance of each speaker in 1.0 dB steps from –6 dB [L] to +6 dB [R]. Default adjustments are 0.0 dB.

- FRONT: The balance between the front left and right speakers.
- REAR: The balance between the rear left and right speakers.

LEVEL ---------- Adjust the level of each speaker in 1.0 dB steps from –10 dB to +6 dB. Default adjustments are 0.0 dB.

- CENTER: The level of the center speaker.
- REAR: The level of the rear speakers.
- SUBWOOFER: The level of the subwoofer.

TEST TONE ---------- Use the test tone to adjust the speaker volume.

- OFF: The test tone is not emitted from the speakers.
- ON: During adjustment of "BALANCE" or "LEVEL", the test tone is emitted from both speakers simultaneously.

Note

While you are playing a disc, you cannot hear the test tone. Execute the test tone after you stop playback.

Adjusting the speaker balance/level

1 In the stop mode, press DVD SETUP, then select "SPEAKER SETUP".

2 Select "TEST TONE" and set "TEST TONE" to "ON".

You will hear the test tone from each speaker in sequence.

3 From your listening position, press ↑ or ↓ repeatedly to select "BALANCE" or "LEVEL", then press ENTER. Adjust the value of "BALANCE" and "LEVEL" using ↑ or ↓.

During this adjustment, the test tone is emitted from both speakers simultaneously.

4 Select "TEST TONE" and set "TEST TONE" to "OFF" to turn off the test tone.

To return to the default setting

Select the item, then press CLEAR.

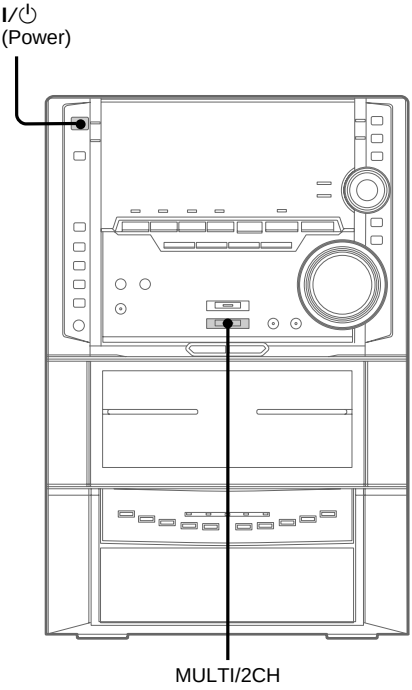
Tip

If you turn VOLUME (or press VOL +/– on the remote), all the speaker volumes change.

If connecting the front speakers only

You can use this system with the front speakers only.

In this case, switch the system to the 2-channel mode.



➡ Press MULTI/2CH to turn off the indicator on the button.

In the DVD 2CH mode, all of the audio channels are mixed down to a 2-channel audio signal.

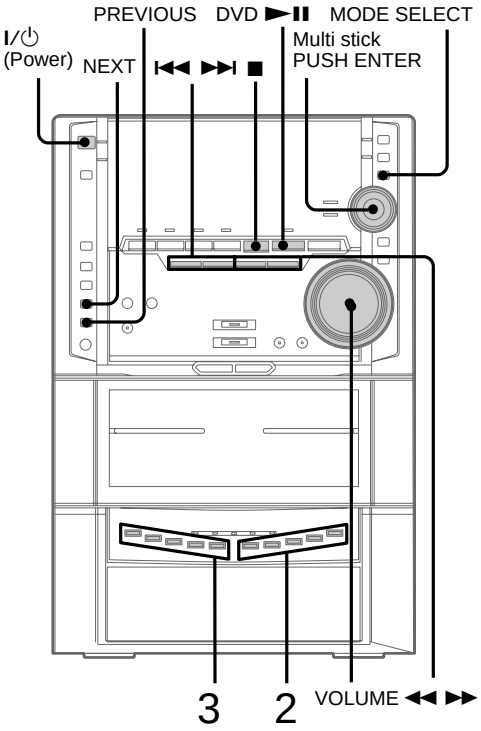
Playing discs

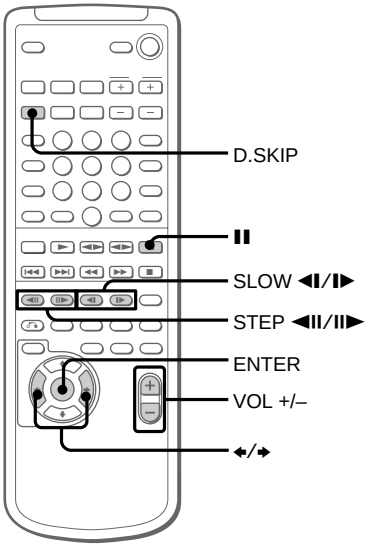
— Normal Play

You can play up to five discs (DVD, VIDEO CD, CD) in a row.

You can play both VIDEO CDs without PBC functions (Ver. 1.1) and VIDEO CDs with PBC functions (Ver. 2.0). You can enjoy two kinds of playback according to the disc type.

Depending on the DVD or VIDEO CD, some operations may be different or restricted. Refer to the instructions supplied with your disc.





1 Turn on your TV and select the video input.

Refer to the operating instructions supplied with your TV if you need help.

2 Press one of the ⏏ 1~5 buttons and place a disc on the disc tray.

If a disc is not placed properly, it will not be recognized.

Place with the label side up. When you play an 8 cm disc, place it on the inner circle of the tray.

Press the same button to close the disc tray. To insert other discs, press ⏏ of other numbers to open the disc tray.

The disc presence indicator lights in the display.

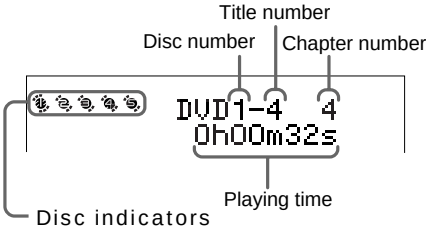
Disc presence indicator

3 Press one of the DISC 1~5 buttons.

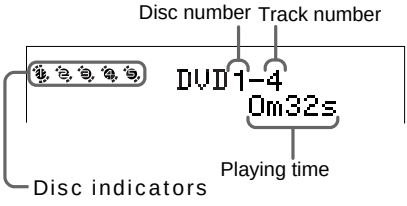
The disc tray closes and playback starts.

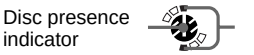
If you press DVD ►II when the disc tray is closed, playback starts from the disc loaded on the tray whose disc pointer indicator lights.

When playing back a DVD:



When playing back a VIDEO CD or CD:





In “1 Disc” play mode (see the following list)

In “All Discs” play mode (see the following list)

To	Do this
Stop play	Press ■. The playback stops at the point ■ is pressed (Resume Play). Press ■ again to cancel the Resume Play.
Pause	Press DVD ►II (or II on the remote)*1. Press again to resume playback.
Select a track or chapter*2	During playback or pause, press ►►I or NEXT (to go forward), I◄◄ or PREVIOUS (to go back).
Find a point in a track title or chapter (Lock search function)	Press ►► or ◄◄ during playback. When you press ►► or ◄◄ repeatedly, the search speed changes as follows: 1 (slow) → 2 (faster than 1) → 1 (slow)... Press DVD ►II (or DVD ► on the remote) at the desired point.
Change the playback speed*4	During playback, press SLOW ◄I or I►*3 on the remote. Each time you press the button, the speed switches between two slowed playback speeds. To return to normal playback, press DVD ►II (or DVD ► on the remote).
Playing the disc frame by frame changing the playback speed*4	During playback, press STEP ◄II or II►*3 on the remote. Each time you press the button, playback is advanced a single frame in the desired direction. To return to normal playback, press DVD ►II (or DVD ► on the remote).
Select a disc in stop mode	Press one of the DISC 1~5 buttons (or D.SKIP on the remote).
Play only the disc you have selected	1 Press MODE SELECT repeatedly to select “Set Up Mode”, then press PUSH ENTER in stop mode. 2 Move the multi stick toward ← or → repeatedly to select “DVD Set Up ?”, then press PUSH ENTER. 3 Move the multi stick toward ← or → repeatedly to select “Play Mode Set Up ?”, then press PUSH ENTER. 4 Move the multi stick toward ← or → repeatedly to select “Play Mode 1 Disc”, then press PUSH ENTER.

continued

To	Do this
Play all discs	1 Press MODE SELECT repeatedly to select “Set Up Mode”, then press PUSH ENTER in stop mode. 2 Move the multi stick toward ← or → repeatedly to select “DVD Set Up ?”, then press PUSH ENTER. 3 Move the multi stick toward ← or → repeatedly to select “Play Mode Set Up ?”, then press PUSH ENTER. 4 Move the multi stick toward ← or → repeatedly to select “Play Mode All Discs”, then press PUSH ENTER.
Remove a disc	Press one of the ⏏ 1~5 buttons.
Exchange other discs while playing	Press one of the ⏏ 1~5 buttons to open the tray that contains the disc that you want to change. When you change the disc, press the same button to close the tray.
Adjust the volume	Turn VOLUME (or press VOL +/– on the remote).

*1 There may be some disturbance in the video image.

*2 Only when the PBC function is set to off or when playing VIDEO CDs without PBC functions (Ver 1.1).

*3 SLOW ◀❙ and STEP ◀❙❙ are not available during playback of VIDEO CDs.

*4 DVD and VIDEO CD only.

Tips

- Pressing DVD ►❙❙ when the power is off automatically turns the power on and starts disc playback if there is a disc in the tray (One Touch Play). When the system is in the Power Saving Mode, the One Touch Play function does not work.
- You can switch from another source to the DVD player and start playing a disc just by pressing DVD ►❙❙ or one of the DISC 1~5 buttons (Automatic Source Selection).
- If there is no disc in the player, “No Disc” appears in the display.
- When a disc tray is holding a disc, the indicator for the tray lights. In the display, when a disc tray holding a disc is selected (or the disc in the disc tray is playing), the disc pointer indicator lights. When a disc tray holding a disc is not selected, the disc presence indicator lights, but the disc pointer indicator does not light. When all disc trays are empty, all the disc pointer indicators and all the disc presence indicators light.

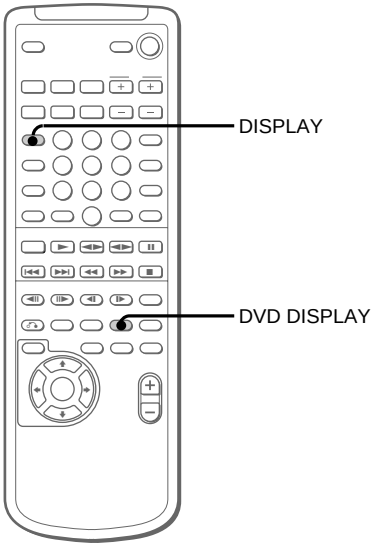
Notes

- When a tray has not been read by the unit, the disc presence indicator may light even though there is no disc in the tray.
- Depending on the DVD or VIDEO CD, some operations may be prohibited.
- VIDEO CDs cannot be viewed slowly or frame by frame in the reverse direction.
- Resume Play may not be available depending on the disc.
- Resume Play is not available in Shuffle or Program Play mode.
- Depending on where you stopped the disc, the player may resume playback from a different point.
- The point where you stopped playing is cleared when:
  - you open or close the disc tray
  - you disconnect the AC power cord
  - you change the play mode
  - you start playback after selecting a title, chapter, or track
  - you change the settings of “DVD MENU”, “AUDIO”, or “SUBTITLE” in “LANGUAGE SETUP” in the setup display.
  - you change the settings of “TV TYPE” in ”SCREEN SETUP” in the setup display
  - you change the settings of “PARENTAL CONTROL” in ”CUSTOM SETUP” in the setup display
  - you select another disc.
- When “DVD” is selected as the function, you cannot use Dolby Pro Logic Surround sound and the DSP surround effects.
- When recording, the indicator on the MULTI/2CH button is turned off automatically.
- Under the following circumstances, 2CH is automatically selected and the indicator on the MULTI/2CH button turns off.
  - When recording.
  - When TAPE B is in REC PAUSE mode.
  - When recording using TAPE B.
- When using headphones, the sound from headphones is 2 channel.
- Switch the channel mode to 2CH by pressing MULTI/2CH when making an analog recording using a component connected to the MD OUT jacks on this unit. There is no audio output from the MD OUT jacks in the multi channel mode.
- Depending on the DVD, digital recording may not be done. In this case, perform analog recording. Press MULTI/2CH to switch the channel mode to 2CH on this system when making an analog recording.

Checking the text information of the disc

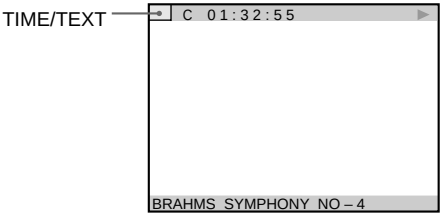
You can check the DVD TEXT or CD TEXT of the disc on the TV screen and the front panel display.

DVD TEXT and CD TEXT is information recorded on the disc which you cannot change.



➡ Press DISPLAY repeatedly while playing a DVD or a TEXT-CD.

The “TIME/TEXT” information is displayed at the top of the screen. When the elapsed time of the chapter, or track is displayed, text information is displayed at the bottom of the screen.



Notes

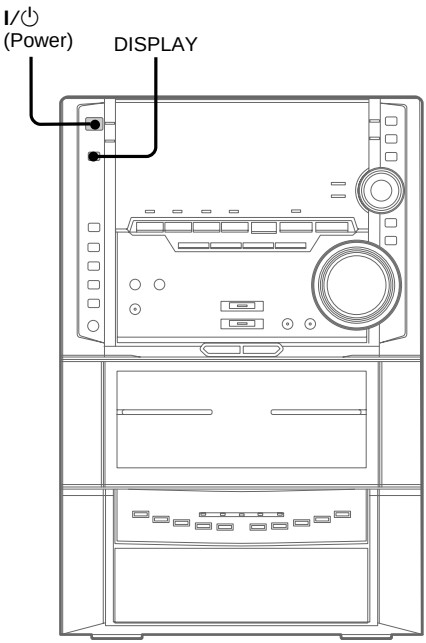
- Only DVD TEXT in English is displayed.
- When there is no text recorded on the disc, “NO TEXT” is displayed.
- If DISPLAY is not pressed for 2 seconds, the display disappears.

Checking the playing time and remaining time

You can check the remaining time of the current track or that of the disc.

When a TEXT disc is loaded, you can check the information stored on the disc, such as the disc titles. When the unit detects TEXT discs, the "TEXT" indicator appears in the display.

Using the front panel display



➡ Press DISPLAY.

Each time you press the button during normal playback or when playback is stopped, the display changes as follows:

During normal playback

DVDs:

→ Playing time of the current chapter
↓
Remaining time of the current chapter
↓
Playing time of the current title
↓
Remaining time of the current title
↓
Title name*
↓
Clock display (for eight seconds)
↓
Preset file name or "EFFECT ON (OFF)"

VIDEO CDs with PBC functions:

→ Playing time of the current track
↓
Title name of the current track*
↓
Clock display (for eight seconds)
↓
Preset file name or "EFFECT ON (OFF)"

VIDEO CDs (in continuous play) or CDs

→ Playing time of the current track
↓
Remaining time of the current track
↓
Playing time of the current disc
↓
Remaining time of the current disc
↓
Title name of the current track
↓
Clock display (for eight seconds)
↓
Preset file name or "EFFECT ON (OFF)"

continued

Checking the playing time and remaining time (continued)

When playback is stopped

During Program Play mode when there is a program

→ The last title, chapter, or track number of the program and the total playing time
↓
Title name*
↓
Clock display (for eight seconds)
↓
Preset file name or “EFFECT ON (OFF)”

In other conditions

DVDs:

→ Total number of titles**
↓
Title name*
↓
Clock display (for eight seconds)
↓
Preset file name or “EFFECT ON (OFF)”

VIDEO CDs with PBC functions:

→ Total number of tracks and the total playing time**
↓
Title name of the disc*
↓
Clock display (for eight seconds)
↓
Preset file name or “EFFECT ON (OFF)”

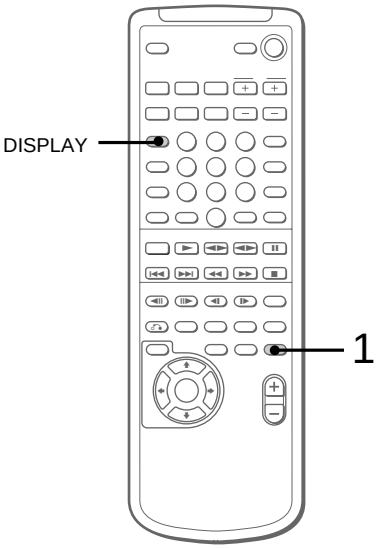
VIDEO CDs (in continuous play) or CDs:

→ Total number of tracks and the total playing time**
↓
Title name of the disc*
↓
Clock display (for eight seconds)
↓
Preset file name or “EFFECT ON (OFF)”

* With discs that are recorded with TEXT only (certain characters cannot be displayed). When no text is on the disc, nothing appears. Depending on the disc, some TEXT information may not appear.

**When playback is stopped and “RESUME” appears on the front panel display, the point where playback was stopped is displayed.

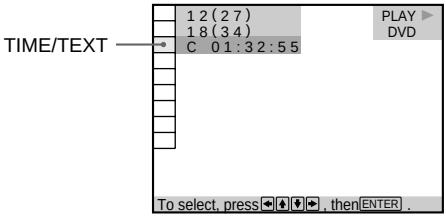
Using the on-screen display



1 Press DVD DISPLAY while playing a DVD.

2 Select “TIME/TEXT” of the control menu display on the TV screen.

To change the time information, press DISPLAY.



When playing a DVD

C ✻✻:✻✻:✻✻
Playing time of the current chapter

C-✻✻:✻✻:✻✻
Remaining time of the current chapter

T ✻✻:✻✻:✻✻
Playing time of the current title

T-✻✻:✻✻:✻✻
Remaining time of the current title

When playing a VIDEO CD (during PBC playback)

✻✻:✻✻
Playing time of the current scene

When playing a VIDEO CD (in continuous play) or CD

T ✻✻:✻✻
Playing time of the current track

T-✻✻:✻✻
Remaining time of the current track

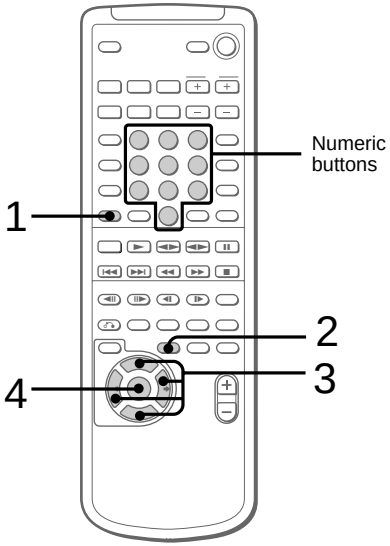
D ✻✻:✻✻
Playing time of the current disc

D-✻✻:✻✻
Remaining time of the current disc

Playing DVDs using the menu

Using the title menu

A DVD is divided into long sections of a picture or a music piece called “titles.” When you play a DVD which contains several titles, you can select the title you want using the title menu.



1 Press FUNCTION repeatedly until “DVD” appears in the display, then place a disc.

2 Press TITLE.

The title menu appears on the TV screen. The contents of the menu vary from disc to disc.

3 Press ←/→/↑/↓ to select the title you want to play.

Depending on the disc, you can use the numeric buttons to select the title.

4 Press ENTER.

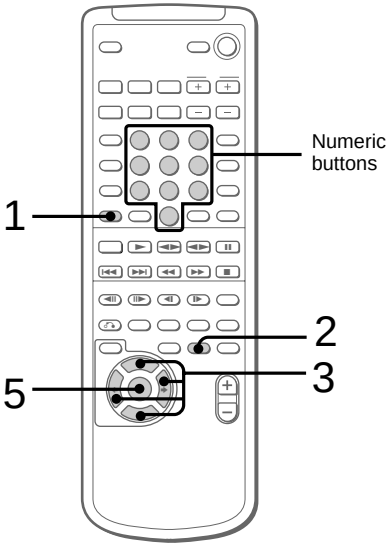
The player starts playing the selected title.

Notes

- Depending on the DVD, you may not be able to select the title.
- Depending on the DVD, a “title menu” may simply be called a “menu” or “title ” in the instructions supplied with the disc. “Press ENTER” may also be expressed as “Press SELECT”.

Using the DVD menu

Some DVDs allow you to select the disc contents using the menu. When you play these DVDs, you can select the language for the subtitles, the language for the sound, etc., using the DVD menu.



1 Press FUNCTION repeatedly until "DVD" appears in the display, then place a disc.

2 Press DVD MENU.

The DVD menu appears on the TV screen. The contents of the menu vary from disc to disc.

3 Press ←/→/↑/↓ to select the item you want to change.

Depending on the disc, you can use the numeric buttons to select the item.

4 To change other items, repeat Step 3.

5 Press ENTER.

Tip

If you want to select the language for the DVD menu, change the setting using "LANGUAGE SETUP" in the setup display. For details, see page 15.

Note

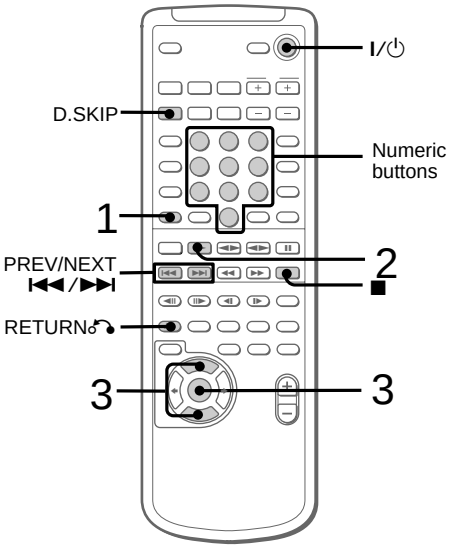
Depending on the DVD, a "DVD menu" may simply be called a "menu" in the instructions supplied with the disc.

Playing VIDEO CDs with PBC functions (Ver. 2.0)

When playing VIDEO CDs with PBC functions (Ver. 2.0 discs), you can enjoy simple interactive operations, operations with search functions, etc.

PBC Playback allows you to play VIDEO CDs interactively, following the menu screen on the TV screen.

Refer to the instructions supplied with the disc, as the operating procedure may differ according to the VIDEO CD.



1 Press FUNCTION repeatedly until “DVD” appears in the display, then place a VIDEO CD with PBC functions (Ver. 2.0).

2 Press DVD ► to start playing a disc.

The VIDEO CD indicator lights and a PBC menu appears on your TV.

The PBC indicator lights during PBC playback of a PBC compatible VIDEO CD (Ver. 2.0).

3 Press ↑ or ↓ repeatedly (or the numeric buttons) to select a number from the menu, then press ENTER.

4 Continue according to the instructions on the menus to enjoy interactive playback.

To	Do this
Stop playback	Press ■.
Go to the next scene or track	Press NEXT.
Go back to the preceding scene or track	Press PREV (or PREVIOUS on the unit)
Go back to the previous menu	Press RETURN ↩ (or RETURN on the unit).

To cancel PBC Playback of VIDEO CDs with PBC functions (Ver. 2.0)

There are two ways to cancel the PBC functions.

- Before you start playing, select the track you want using I◄◄ /►►I, then press ENTER or DVD ►.
- Before you start playing, select the track number using the numeric buttons, then press ENTER or SELECT.

The PBC indicator disappears and playback begins from the selected track. Still images, such as the menu screens, will not be shown.

To select a menu number using the remote

Press the numeric buttons in the order you want in step 3.

Tips

- When playing VIDEO CDs with PBC functions, PBC playback starts automatically.
- When you press NEXT during menu playback or while playing moving pictures, the next scene on the disc appears. Also refer to the instructions supplied with the disc.

Note

Depending on the VIDEO CD, “Press ENTER” in Step 3 may be expressed as “Press SELECT” in the instructions supplied with the disc.

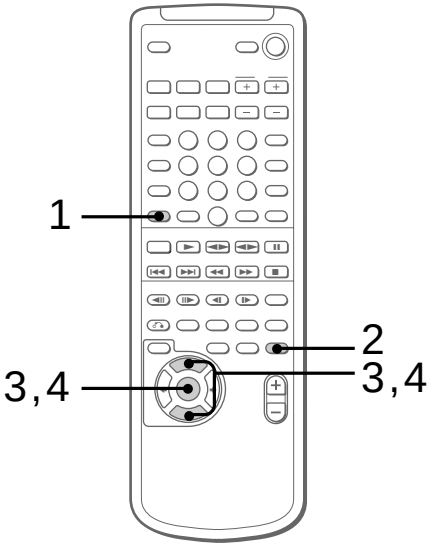
Setting for the surround sound

Select the mode to enjoy multi channel surround sound such as Dolby Digital.

When you connect 2 front speakers and 2 rear speakers, use 3D sound imaging to shift the sound of the rear speakers away from the actual speaker position (VIRTUAL REAR SHIFT) or to create 3 sets of virtual rear speakers from 1 set of actual rear speakers (VIRTUAL MULTI REAR).

Even if you connect only front speakers, Virtual Enhanced Surround lets you enjoy 3D sound by using 3D sound imaging to create virtual rear speakers from the sound of the front speakers (L, R) without using actual rear speakers.

To enjoy the original Dolby Digital, set each speaker position or distance, etc. For details on setting each speaker, see page 10.



1 Press FUNCTION repeatedly until “DVD” appears in the display, then place a disc.

2 Press DVD DISPLAY to display the control menu display on the TV screen.
The main items appear.

3 Press ↑ or ↓ repeatedly to select the “VIRTUAL 3D SURROUND” icon on TV screen, then press ENTER.
The “VIRTUAL 3D SURROUND” menu items are displayed.

4 Press ↑ or ↓ repeatedly to select a sound effect, then press ENTER.
For details on each item, see “Effects of each item” on the next page.

- OFF
- NORMAL SURROUND*
- ENHANCED SURROUND*
- VIRTUAL REAR SHIFT*
- VIRTUAL MULTI REAR*
- VES A**
- VES B**

* These settings are not effective when rear speakers are not connected.

** These settings also effect the output from the MD OUT jacks.

Effects of each item

OFF

Outputs all channel signals recorded on the disc. For example, outputs 2-channel signals for stereo sound of a CD or 5-channel signals for Dolby Digital sound of a DVD. When you connect fewer than 5 (+1) speakers, the player distributes the output signal for the missing speaker to other speakers appropriately.

NORMAL SURROUND (Dolby Pro Logic)

Software with 2 channel audio signals is decoded with Dolby Pro Logic to create surround effects.

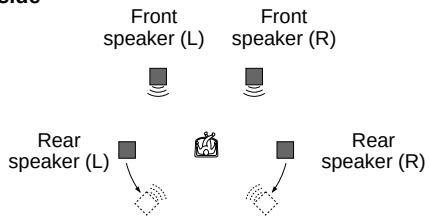
ENHANCED SURROUND

Provides a greater sense of presence from Pro Logic sources with monaural rear channel sound. Produces a stereo like effect in the rear channels.

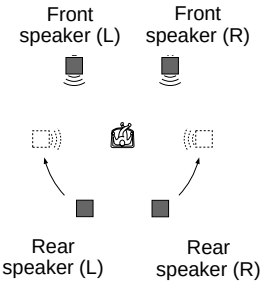
VIRTUAL REAR SHIFT

Uses 3D sound imaging to shift the sound of the rear speakers away from the actual speaker position. The virtual speakers are reproduced as shown in the illustration below. The shift position differs according to the setting of the rear speaker position.

Side



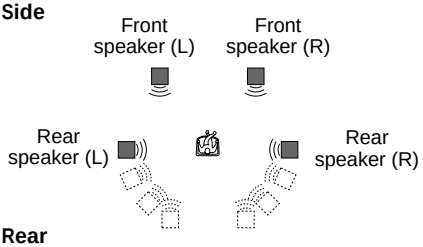
Rear



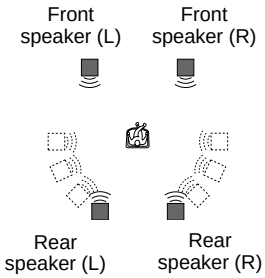
VIRTUAL MULTI REAR

Uses 3D sound imaging to create an array of virtual rear speakers from a single pair of actual rear speakers. The virtual speakers are reproduced as shown in the illustration below. The position of the virtual rear speakers differs according to the setting of the rear speaker position.

Side



Rear

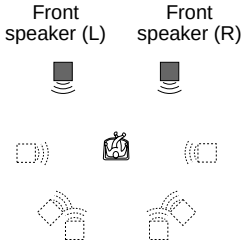


continued

Setting for the surround sound (continued)

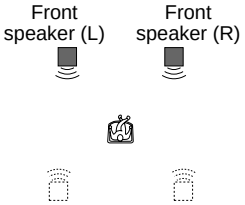
VES (Virtual Enhanced Surround) A

Uses 3D sound imaging to create virtual rear speakers from the sound of the front speakers (L, R) without using actual rear speakers. The virtual speakers are reproduced as shown in the illustration below.



VES (Virtual Enhanced Surround) B

Uses 3D sound imaging to create virtual rear speakers from the sound of the front speakers (L, R) without using actual rear speakers. The virtual speakers are reproduced as shown in the illustration below.



Notes

- Some discs do not have rear sound. In this case, you cannot get the 3D surround effect.
- When you select an item, the sound cuts off for a moment.
- When the playing signal does not contain the surround component, the effects may be difficult to hear even if you select “VES A” or “VES B”.
- The sound does not come from the rear speakers when you set “VIRTUAL 3D SURROUND” to “VES A” or “VES B” in the Control Menu display even if you have connected rear speakers.
- Set the front speakers to form an equilateral triangle including the listening position, or the effects may be difficult to hear even if you select “VES A” or “VES B”.
- In case that the player outputs the signal from DIGITAL OUT OPTICAL, the surround effect will be heard only when you set “DOLBY DIGITAL” to “D-PCM”.
- When you play a sound track with a 96 kHz sampling frequency, be sure to select “OFF”, or the output signals will be converted to 48 kHz (sampling frequency). (Except when the player outputs the audio signal from DIGITAL OUT OPTICAL.)
- When you connect a center speaker and a subwoofer, you can also hear the sound from the center speaker and the subwoofer.
  When you select “VES A” or “VES B,” the player does not output the sound from the center speaker.
- When you select monaural sound (1/L or 2/R) while playing CD or VIDEO CD, “VIRTUAL 3D SURROUND” mode switched off.

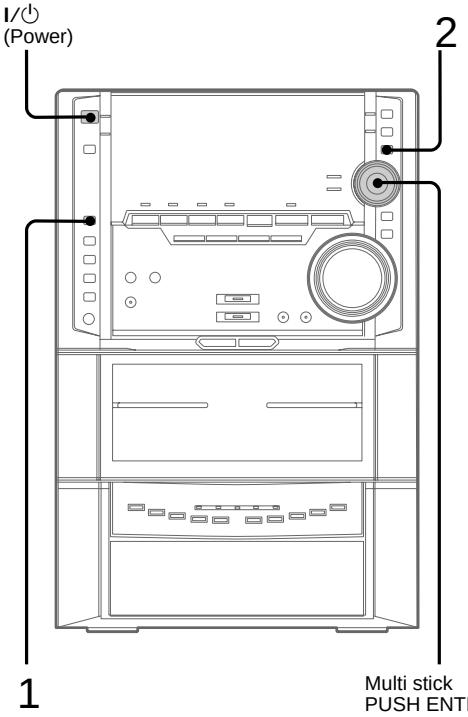
Playing repeatedly

— Repeat Play

You can play all of the discs, all the titles/tracks on a single disc, or a single title/track repeatedly.

In Shuffle or Program Play mode, the player repeats the titles or tracks in the shuffled or programmed order.

Using controls on the front panel



1 Press FUNCTION repeatedly until “DVD” appears in the display, then place a disc.

2 Press MODE SELECT repeatedly to select “Set Up Mode”, then press PUSH ENTER.

3 Move the multi stick toward ← or → repeatedly to select “DVD Set Up ?”, then press PUSH ENTER.

4 Move the multi stick toward ← or → repeatedly to select “Repeat Set Up ?”, then press PUSH ENTER.

5 Move the multi stick toward ← or → repeatedly to select “Repeat 1” or “Repeat All”, then press PUSH ENTER.

When “Repeat 1” is selected, a single title or track is repeated. When “Repeat All” is selected, playback varies according to the setting of “Play Mode Set Up ?” menu.

Play Mode*	Repeat
1 Disc	all titles/tracks on the current disc up to five times
1 Shuffle	
All Discs	all titles/tracks on all the discs up to five times
All Shuf	Not available
Program	the program up to five times

* You can change the play mode in stop mode only. To change the Play Mode setting, see pages 25, 26, 42, and 43.

To cancel the menu operation

Press MODE SELECT.

To cancel Repeat Play

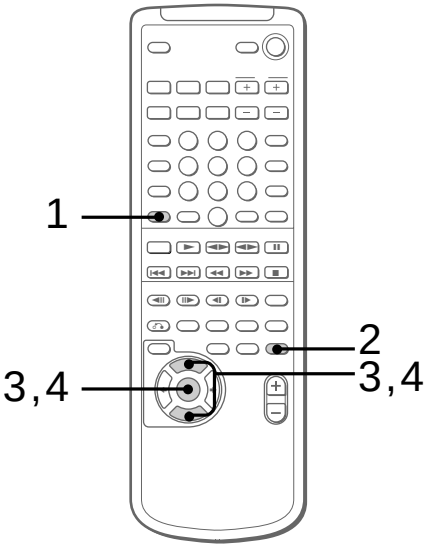
Select “Repeat Off” in step 5.

Notes

- You cannot do Repeat Play during PBC playback of VIDEO CDs (page 34).
- You may not be able to do Repeat Play depending on the DVD.
- You cannot select “REPEAT 1” when “Program” is selected in the “Play Mode Set Up ?” menu.

continued

Using the on-screen display



1 Press FUNCTION repeatedly until “DVD” appears in the display, then place a disc.

2 Press DVD DISPLAY to display the control menu display on the TV screen.
The main items appear.

3 Press ↑ or ↓ repeatedly to select the “REPEAT” icon on the TV screen, then press ENTER.

4 Press ↑ or ↓ repeatedly to select a repeat setting, then press ENTER.

When playing a DVD and when Program Play and Shuffle Play are set to OFF

- OFF: does not play repeatedly.
- DISC: repeats all the titles.
- TITLE: repeats the current title on a disc.

When playing a VIDEO CD/CD and when Program Play and Shuffle Play are set to OFF

- OFF: does not play repeatedly.
- DISC: repeats all the tracks on a disc.
- TRACK: repeats the current track.

When Program Play is set to ON

- OFF: does not play repeatedly.
- ON: repeats Program Play.

To cancel Repeat Play

Select “OFF” in step 4.

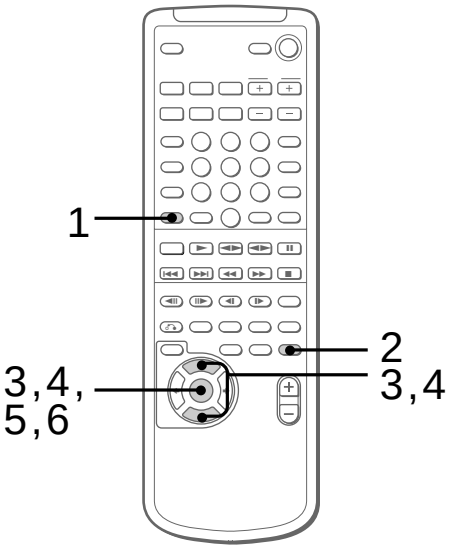
Note

You can change the play mode in stop mode only.

Repeating a Specific Portion

— A–B Repeat

You can play a specific portion of a title, chapter, or track repeatedly. This is useful when you want to memorize lyrics or analyze a scene.

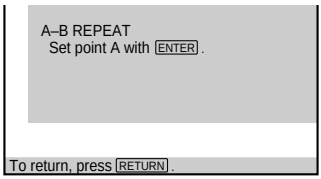


1 Press FUNCTION repeatedly until “DVD” appears in the display, then place a disc.

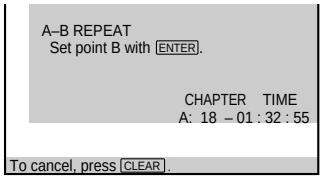
2 Press DVD DISPLAY to display the control menu display on the TV screen.
The main items appear.

3 Press ↑ or ↓ repeatedly to select “A-B REPEAT”, then press ENTER.
The “A-B REPEAT” settings are displayed.

4 Press ↑ or ↓ repeatedly to select “SET➡”, then press ENTER.
The A-B REPEAT setting display appears.



5 During playback, when you find the starting point (point A) of the portion to be played repeatedly, press ENTER.
The starting point (point A) is set.



6 When you reach the ending point (point B), press ENTER again.
The setting points are displayed and the player starts repeating this specific portion.

To cancel A-B Repeat Play

Select “Repeat Off” in step 3.

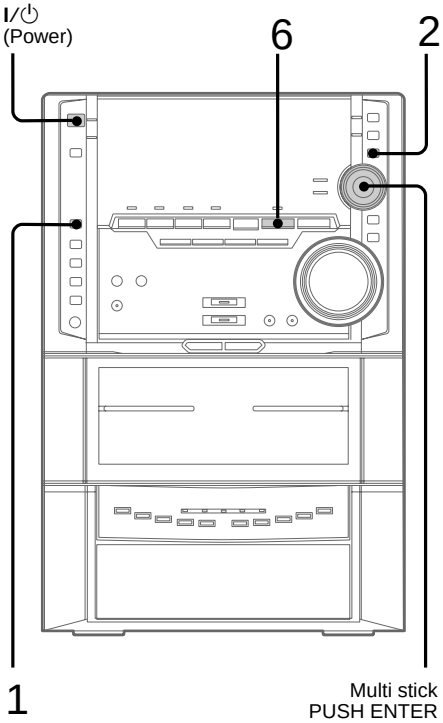
Notes

- During PBC Playback of VIDEO CDs (page 34), this function is available only while playing moving pictures.
- You can set A-B Repeat on only one specific portion.
- A-B Repeat is canceled when:
  - you open or close the disc tray
  - you turn the power off
  - you change the function.
- When you set A-B Repeat, the settings for Shuffle Play and Program Play are canceled.
- You may not be able to set A-B Repeat, depending on the scene of the DVD or the VIDEO CD.
- You can change the play mode in stop mode only.

Playing in random order

— Shuffle Play

You can play all the titles or tracks on one disc or all discs in random order.



1 Press FUNCTION repeatedly until “DVD” appears in the display, then place a disc.

2 While in the stop mode, press MODE SELECT repeatedly to select “Set Up Mode”, then press PUSH ENTER.

3 Move the multi stick toward ← or → repeatedly to select “DVD Set Up ?”, then press PUSH ENTER.

4 Move the multi stick toward ← or → repeatedly to select “Play Mode Set Up ?”, then press PUSH ENTER.

5 Move the multi stick toward ← or → repeatedly to select “All Shuf” or “1 Shuffle”, then press PUSH ENTER.

“All Shuf” shuffles all the discs in the player.
“1 Shuffle” shuffles the disc whose disc pointer indicator is lit.

6 Press DVD ►II.

All the tracks play in random order.

To cancel the menu operation

Press MODE SELECT.

To cancel Shuffle Play

1 Perform steps 1 through 4 in the above procedure.

2 Move the multi stick toward ← or → repeatedly to select “All Discs” or “1 Disc”, then press PUSH ENTER.

The titles or tracks continue playing in their original order.

To select a desired disc

Press DISC 1~5.

Tip

To skip a title or track, press ►►I.

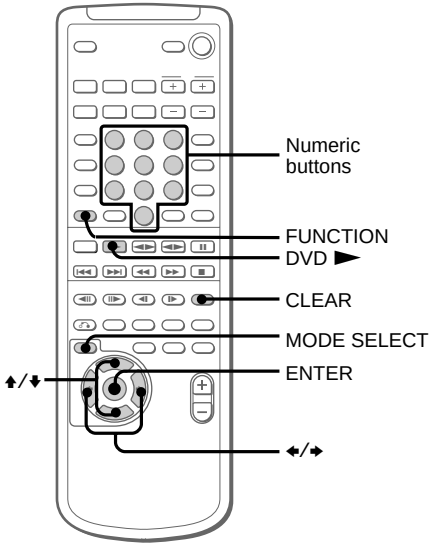
Notes

- You cannot do Shuffle Play of chapters within a title.
- You can change the play mode in stop mode only.
- You cannot do Shuffle Play during PBC playback of VIDEO CDs (page 34).
- You may not be able to do Shuffle Play depending on the DVD.

Enjoying your original playback order

— Program Play

You can make a program of up to 25 steps from all the discs in the order you want them to be played.



1 Press FUNCTION repeatedly until “DVD” appears in the display, then place a disc.

2 While in the stop mode, press MODE SELECT to select “Set Up Mode”, then press ENTER.

3 Press ← or → repeatedly to select “DVD Set Up ?”, then press ENTER.

4 Press ← or → repeatedly to select “Program Set ?”, then press ENTER.

5 Press ENTER to confirm the step number for programming.

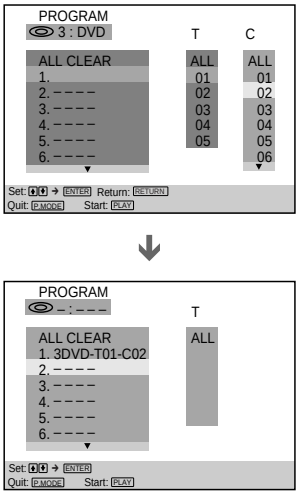
It is ready to set the first title or track for programming.

6 Press the numeric buttons (or ↑/↓) to select a disc, then press ENTER.

7 Press the numeric buttons (or ↑/↓) to select the title, chapter, or track you want, then press ENTER.

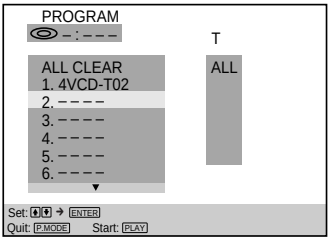
When programming a DVD:

When both titles and chapters are recorded on the disc, select the title, then the chapter.



When programming a VIDEO CD or CD:

Select the track you want to program.



continued

8 To program additional steps, repeat steps 5 through 7.

9 Press DVD ► to start playback.
All the tracks play in the order you selected.

To cancel Program Play

Press CLEAR.

To cancel programming

1 Press FUNCTION repeatedly until “DVD” appears in the display.
2 While in the stop mode, press MODE SELECT repeatedly to select “Set Up Mode”, then press ENTER.
3 Press ← or → repeatedly to select “DVD Set Up ?”, then press ENTER.
4 Press ← or → repeatedly to select “Play Mode Set Up ?”, then press ENTER.
5 Press ← or → repeatedly to select “All Discs” or “1 Disc”, then press ENTER.

To change programming

1 After step 4 for new programming, select the program number of the title, chapter or track you want to change using ↑ or ↓, then press ENTER.
2 Follow steps 6 through 9 for new programming.

To cancel the programming order

To cancel all the titles, chapters or tracks in the programmed order, select “ALL CLEAR” using ↑ or ↓ after step 4 for new programming, then press ENTER.

To cancel a specific step, select the desired step using ↑ or ↓ after step 4 for new programming, then press CLEAR.

Tips

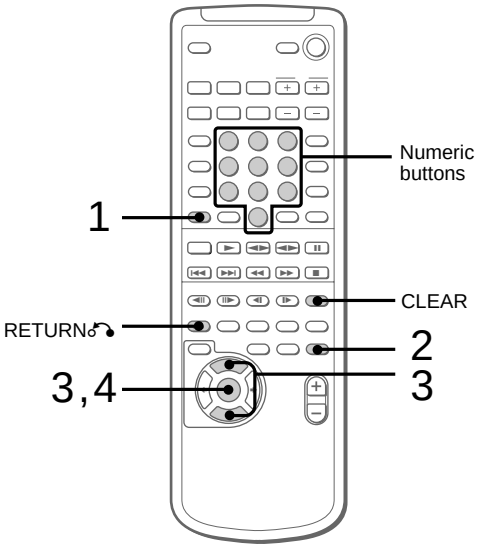
- You can make a program in the “Play Mode Set Up ?” menu. Select “Play Mode Set Up ?” in step 4, then press ← or → repeatedly to select “Program” and press ENTER. Then follow steps 5 to 7.
- The program you made remains in the system’s memory even after it has been played back. Press DVD ► to play the same program again.

Notes

- The program is canceled when you change the function to TUNER or turn the system off.
- You may not be able to do Program Play depending on the DVD.
- While you are doing PBC playback, you cannot set a program.
- When you switch the play mode to “program” while “REPEAT 1” is selected, “REPEAT 1” is automatically canceled.

Searching for the title/ chapter

You can search by selecting the title or chapter.



1 Press FUNCTION repeatedly until “DVD” appears in the display, then place a disc.

2 Press DVD DISPLAY to display the control menu display on the TV screen.
The main items appear.

3 Press ↑ or ↓ repeatedly to select the “TITLE” or “CHAPTER” icon on the TV screen, then press ENTER.
“✻✻ (✻✻)” changes to “— — (✻✻)”.
The number in parentheses indicates the total number of titles or chapters.

4 Select the number of the title or chapter you want to search for using the numeric buttons, then press ENTER.
The player starts searching. To cancel the number, press CLEAR before pressing ENTER.

To cancel selecting

Press RETURN↶.

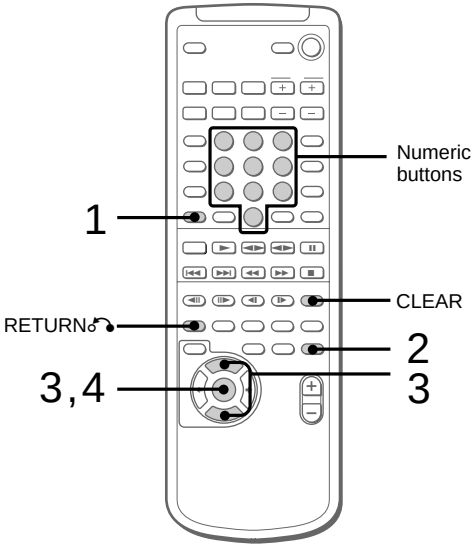
Notes

- The number of titles or chapters displayed is that of the titles and chapters recorded on the disc.
- Depending on the DVD, direct selection of some titles or chapters may be prohibited.

Locating a start point using the time code

You can search by inputting the time code.

The time code corresponds to the approximate elapsed playing time. For example, to search for a scene 2 hours 30 minutes 20 seconds past the beginning, input 2:30:20.



1 Press FUNCTION repeatedly until “DVD” appears in the display, then place a disc.

2 Press DVD DISPLAY to display the control menu display on the TV screen.

The main items appear.

3 Press ↑ or ↓ repeatedly to select “TIME/TEXT”, then press ENTER.

The time code changes to “T — —:— —:— —”

4 Input the time code using the numeric buttons, then press ENTER.

The player starts searching. To cancel the number, press CLEAR before pressing ENTER.

To cancel inputting

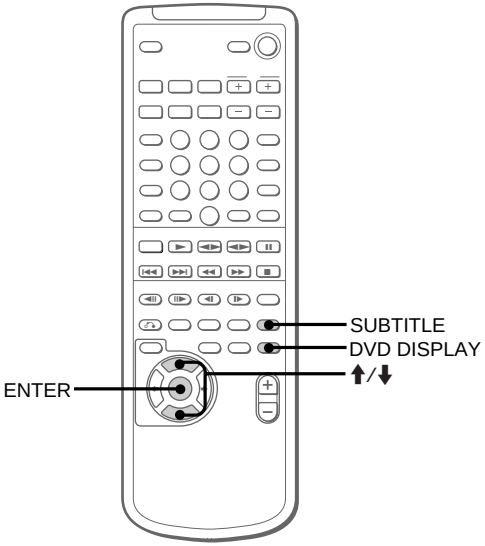
Press RETURN.

Notes

- When you input the time code, input the playing time of the title.
- Depending on the DVD, direct selection of some titles or chapters may be prohibited.
- Depending on the DVD, playback may not start exactly at the time selected.

Displaying the subtitles

With DVDs on which multilingual subtitles are recorded, you can change the subtitle language whenever you want while playing a DVD, and turn it on or off whenever you want. For example, you can select the language you want to master and turn the subtitles on for better understanding.



➡ Press SUBTITLE.

Each time you press the button, the item changes.

Tip

You can change the subtitle using the control menu as follows:

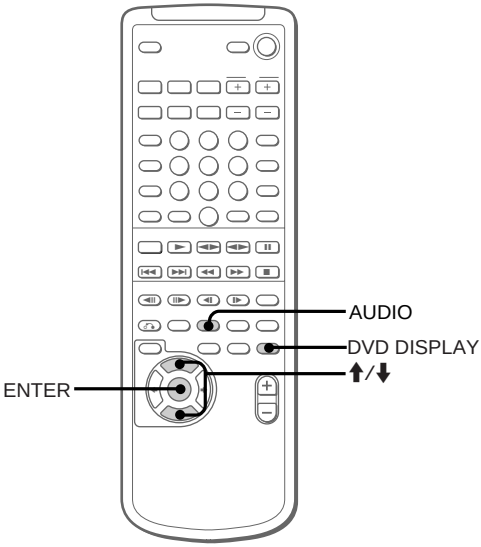
1. Press DVD DISPLAY when the function is DVD.
   The control menu appears on the TV screen.
2. Select "SUBTITLE" using ↑ or ↓, then press ENTER.
3. Select the language using ↑ or ↓, then press ENTER.
   The subtitles are displayed in the selected language.

Notes

- When playing a DVD on which no subtitles are recorded, no subtitles appear.
- Depending on the DVD, you may not be able to turn the subtitles on even if they are recorded on it.
- Depending on the DVD, you may not be able to turn the subtitles off.
- If the language is displayed as a 4-digit number, refer to the language code list on page 101.
- The type and number of languages for subtitles vary from disc to disc.
- Depending on the DVD, you may not be able to change the subtitles even if multilingual subtitles are recorded on it.
- While playing the DVD, the subtitle may change when:
  – you open or close the disc tray
  – you change the title.

Selecting the language for the sounds on the DVD

With DVDs recorded with multilingual sounds, you can select the language you want while playing a DVD.



➡ Press AUDIO.

Each time you press the button, the item changes.

Tip

You can change the language using the control menu as follows:

1 Press DVD DISPLAY when the function is DVD.
The control menu appears on the TV screen.
2 Select “AUDIO” using ↑ or ↓, then press ENTER.
3 Select the language using ↑ or ↓, then press ENTER.
The sound track in the selected language starts.

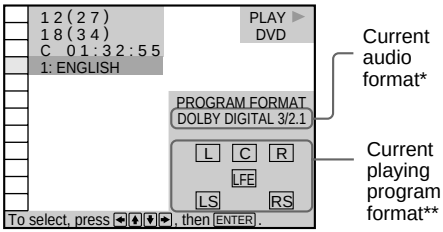
Notes

- Depending on the DVD, you may not be able to change the languages even if multilingual sounds are recorded on the DVD.
- If the language is displayed as a 4-digit number, refer to the language code list on page 101.
- While playing the DVD, the sound may be changed when:
  – you open or close the disc tray
  – you change the title.

Displaying the audio information of the disc

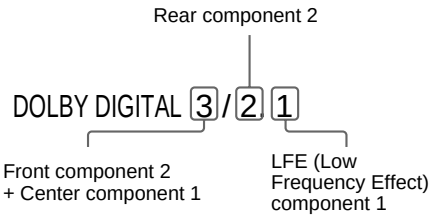
When you select “AUDIO”, the playing channels are displayed on the screen.

In the Dolby Digital format, signals from monaural to 5.1 channels can be recorded on a DVD. Depending on the DVD, the number of the recorded channels may be different.



*“PCM”, “DOLBY DIGITAL”, or “MPEG” is displayed. In the case of “DOLBY DIGITAL”, the channels in the playing track are displayed by number as follows:

The case of Dolby Digital 5.1 ch:



**The letters in the program format display mean the following:

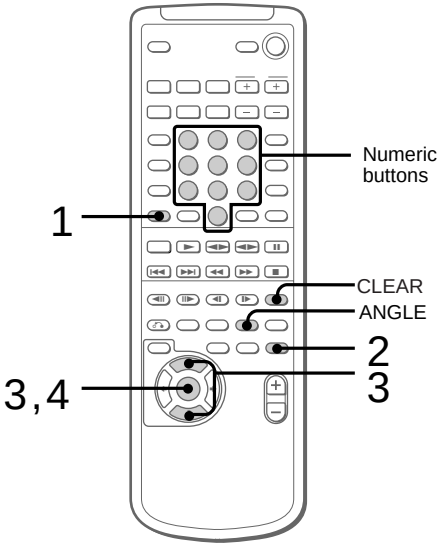
L: Front (L)
R: Front (R)
C: Center (monaural)
LS: Rear (L)
RS: Rear (R)
S: Rear (monaural) – the rear component of the Dolby Surround processed stereo signal and the Dolby Digital signal.
LFE: LFE (Low Frequency Effects)

Tip

You can find Dolby Surround-encoded software by looking at the packaging. Use discs with the DOLBY DIGITAL logo. In order to enjoy Dolby Digital playback, you must use discs bearing this logo.

Changing the angles

When playing back DVDs on which various angles (multi-angles) for a scene are recorded, the ANGLE indicator lights in green. Then, you can change the angles. For example, while playing a scene of a train in motion, you can display the view from either the front of the train, the left window of the train or from the right window without having the train's movement interrupted.



1 Press FUNCTION repeatedly until "DVD" appears in the display, then place a disc.

2 Press DVD DISPLAY to display the control menu display on the TV screen.
The main items appear.

3 Press ↑ or ↓ repeatedly to select "ANGLE", then press ENTER.
"✻ (✻)" changes to "– (✻)". The number in parentheses indicates the total number of angles.

4 Select the angle you want using the numeric buttons, then press ENTER.
The angle is changed to the selected angle. To cancel the number, press CLEAR before pressing ENTER.

Tips

- You can select the angle by pressing ANGLE on the remote. Each time you press the button, the angle changes.
- You can specify the angle beforehand when "ANGLE" does not light in green. When a scene during which multi-angles are recorded comes, the specified angle is automatically selected.
- You can display different angles on the same screen simultaneously (ANGLE VIEWER), and start Normal Play from the chosen angle directly. The angles are displayed on a screen divided in 9 sections. For details, see page 57.

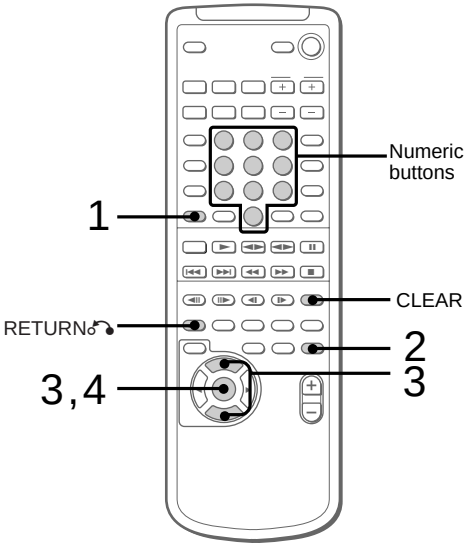
Notes

- The number of angles varies from disc to disc and from scene to scene. The number of angles that can be changed for a scene is that of the number of angles recorded for that scene.
- Depending on the DVD, you may not be able to change the angles even if multi-angles are recorded on the DVD.

Searching for the track/ index/scene

You can search by selecting the track/index/scene.

When you playback a VIDEO CD/CD, “TRACK” and “INDEX” are displayed. When you playback a VIDEO CD with PBC functions, “SCENE” is displayed.



1 Press FUNCTION repeatedly until “DVD” appears in the display, then place a disc.

2 Press DVD DISPLAY to display the Control Menu display on the TV screen.
The main items appear.

3 Press ↑ or ↓ repeatedly to select “TRACK”, “INDEX”, or “SCENE”, then press ENTER.
“✻✻ (✻✻)” changes to “— — (✻✻)”. The number in parentheses indicates the total number of titles or tracks, indexes, or scenes.

4 Select the number of the track, index, or scene you want to search for using the numeric buttons, then press ENTER.
The player starts searching. To cancel the number, press CLEAR before pressing ENTER.

To cancel selecting

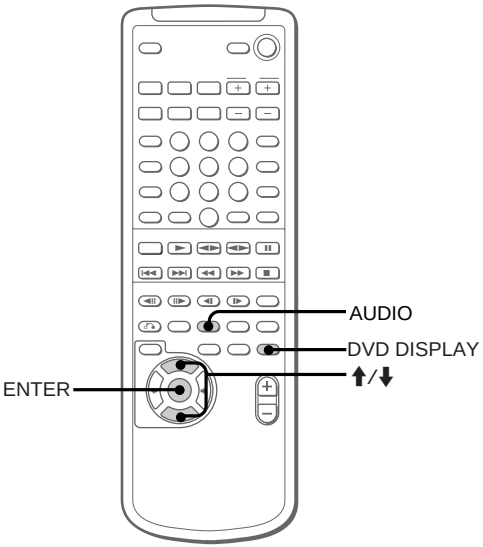
Press RETURN.

Notes

- The number of tracks displayed is that of the tracks recorded on a disc.
- The index numbers are not displayed during PBC playback of VIDEO CDs.

Selecting the stereo/ monaural (L/R) sound

With multiplex CDs or VIDEO CDs, you can select the sound from the right or left channel and listen to the sound of the selected channel through both the right and left speakers. In this case, the sound loses the stereo effect. For example, with a disc containing a song, the right channel may output the vocals and the left channel may output the instrumental. If you only want to hear the instrumental, you can select the left channel and hear it from both speakers.



➡ Press AUDIO.

Each time you press the button, the selection changes as follows:

STEREO : The standard stereo sound
↓
1/L : The sound of the left channel (monaural)
↓
2/R : The sound of the right channel (monaural)

Once an item has been set, the audio output is changed according to the setting made.

Tip

You can change the language using the control menu as follows:

1 Press DVD DISPLAY when the function is DVD.
The control menu appears on the TV screen.
2 Select "AUDIO" using ↑ or ↓, then press ENTER.
3 Select the language using ↑ or ↓, then press ENTER.
The sound in the selected mode starts.

Note

While playing the CD/VIDEO CD, the standard stereo playback will be resumed when:

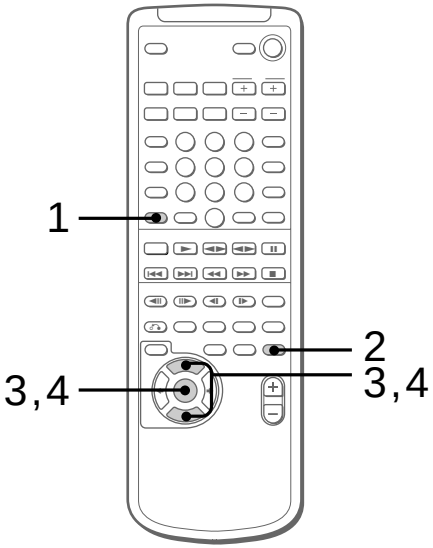
– you open or close the disc tray
– you turn the power off
– you select a sound effect in the "VIRTUAL 3D SURROUND" menu (see page 36).

Checking the play information

This function is available only for DVD discs.

You can check the play information on the bit rate, bit rate history, and the portion where the disc is played (layer).

While playing a disc, the approximate bit rate of the playback picture is always displayed in Mbps (Megabits per second) and the audio by Kbps (Kilobits per second).



1 Press FUNCTION repeatedly until “DVD” appears in the display, then place a disc.

2 Press DVD DISPLAY to display the control menu display on the TV screen.
The main items appear.

3 Press ↑ or ↓ repeatedly to select “ADVANCED”, then press ENTER.
The “ADVANCED” items appear.

4 Press ↑ or ↓ repeatedly to select one of the items, then press ENTER.

- BIT RATE: displays bit rate.
- BIT RATE HISTORY: displays bit rate and bit rate history.
- LAYER: displays layer and the point picked up.
- OFF: turns off the “ADVANCED” display.

Once an item has been set, the display for that setting appears on the screen.

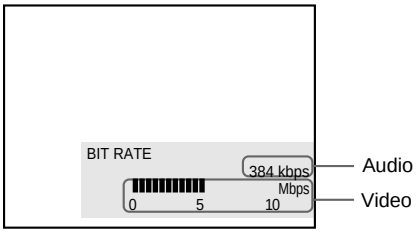
To turn off the information display

Press DVD DISPLAY repeatedly until the information display disappears from the TV screen, or set “ADVANCED” in the control menu display to “OFF”.

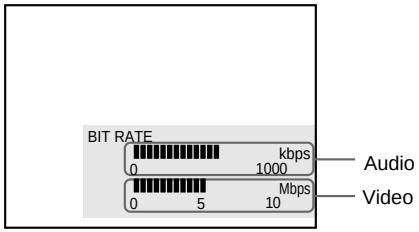
continued

Displays of each item

BIT RATE

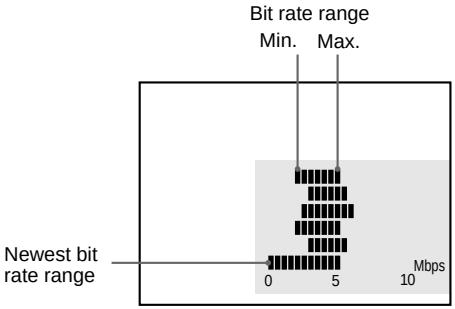


When you play MPEG AUDIO sound tracks



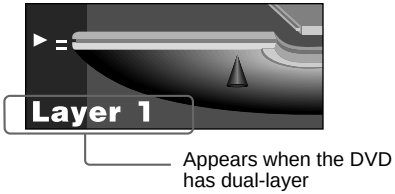
Bit rate refers to the amount of video/audio data per second in a disc. The higher the bit rate is, the larger the amount of data. When the bit rate level is high, there is a large amount of data. However, this does not always mean that you can get higher quality pictures or sounds.

BIT RATE HISTORY



Indicates the transition of bit rate of the playback picture for a period up to the present.

LAYER

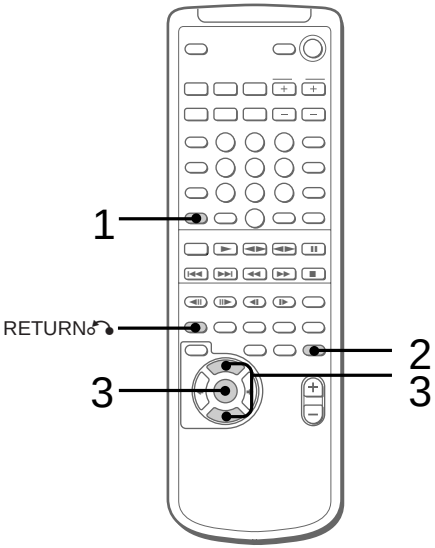


Indicates where the disc is played. When the DVD has dual-layer, the player indicates which layer is being read. For details on layer, see “DVD” on page 98.

Dividing playback into 9 sections

— Strobe Play

When playing a DVD or VIDEO CD, you can display 9 consecutive sections of the disc on the screen. In this case, the sections show still images.



1 Press FUNCTION repeatedly until “DVD” appears in the display, then place a disc.

2 Press DVD DISPLAY once when playing a VIDEO CD, or twice when playing a DVD.
The main items appear.

3 Press ↑ or ↓ repeatedly to select “STROBE PLAYBACK”, then press ENTER.
The viewing screen is displayed. Each frame of playback is shown in succession in the 9 sections on the screen.

To cancel watching the strobe play

Press RETURN↩.

Tip

During pause mode, 9 still images around the pause position are displayed. It is convenient to see the still images around the specific portion.

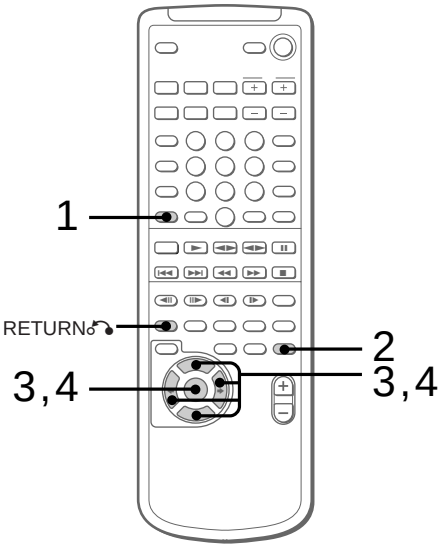
Note

Depending on the disc, there are some scenes you may not be able to watch with the strobe play.

Scanning the title, chapter, or track

When playing a DVD or VIDEO CD, you can check the top picture of titles, chapters, and tracks of the disc on a screen divided in 9 sections, and start playback from the chosen title, chapter, or track.

You cannot scan the tracks on a VIDEO CD during PBC playback.



1 Press FUNCTION repeatedly until "DVD" appears in the display, then place a disc.

2 Press DVD DISPLAY once when playing a VIDEO CD, or twice when playing a DVD.
The main items appear.

3 Press ↑ or ↓ repeatedly to select "TITLE VIEWER" or "CHAPTER VIEWER" (DVD only), or "TRACK VIEWER" (VIDEO CD only), then press ENTER.
The viewing screen is displayed.

4 Press ←/→/↑/↓ to select the picture, then press ENTER.
Playback starts from the selected picture.

To cancel scanning the title, chapter, or track

Press RETURN.

Tips

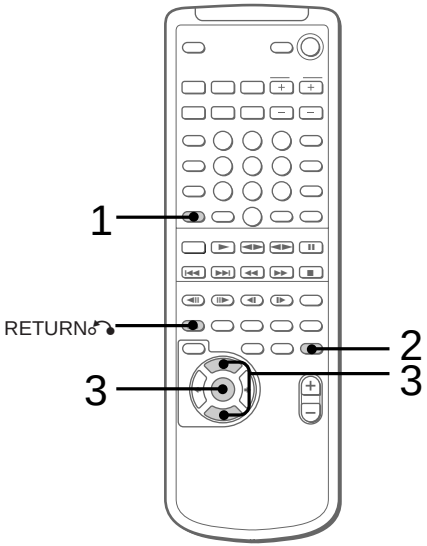
- When there are over 9 titles or chapters, ↓ appears at the right bottom of the screen. Select the right bottom scene (the position of 9) and press ↓ to display the next titles, chapters, or tracks. To return to the previous scene, select the left top scene (the position of 1) and press ↑.
- The number of the title, chapter and track you select is displayed on the front panel display.

Notes

- Depending on the disc, you may not be able to scan the title, chapter, or track.
- This function is not available during PBC playback of VIDEO CDs.

Displaying different angles simultaneously

With DVDs on which various angles (multi-angles) for a scene are recorded, you can display all the angles recorded on the disc on the same screen, and start playback in continuous mode at the chosen angle directly. The angles are displayed on a screen divided in 9 sections.



1 Press FUNCTION repeatedly until "DVD" appears in the display, then place a disc.

2 Press DVD DISPLAY twice to display the control menu display on the TV screen.

3 Press ↑ or ↓ repeatedly to select "ANGLE VIEWER", then press ENTER.
The multi-angle viewing screen is displayed.

To select an angle

Press ←/→/↑/↓ to select the angle, then press ENTER. The selected angle only is displayed.

To cancel displaying multi-angles

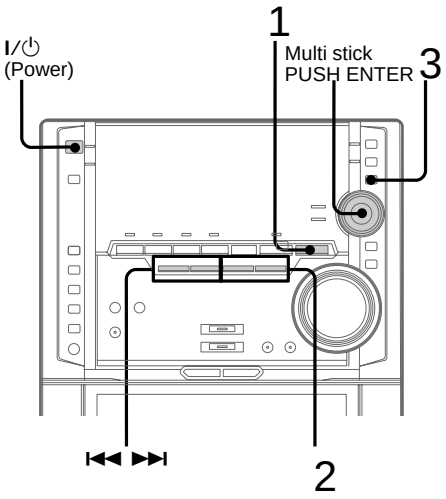
Press RETURN.

Notes

- Depending on the DVD, you may not be able to change the angles even if multi-angles are recorded on the DVD.
- When a scene for which various angles (multi-angles) are not recorded comes while displaying different angles simultaneously, the player returns to Normal Play.

Presetting radio stations

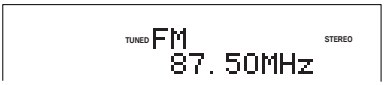
You can preset a total of 30 stations (20 for FM and 10 for AM).



1 Press TUNER/BAND repeatedly to select FM or AM.

2 Press and hold ◀◀ or ▶▶ until the frequency indication starts to change, then release.

Scanning stops automatically when a station is tuned in. "TUNED" and "STEREO" (for a stereo program) appear.

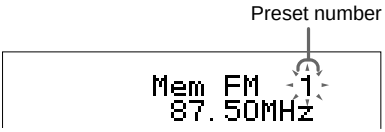


3 Press MODE SELECT repeatedly to select "Set Up Mode", then press PUSH ENTER.

4 Move the multi stick toward ← or → repeatedly to select "TUNER Set Up ?", then press PUSH ENTER.

5 Move the multi stick toward ← or → repeatedly to select "TUNER Memory ?", then press PUSH ENTER.

A preset number and the frequency appear in the display. The stations are stored from preset number 1 automatically.



6 Press PUSH ENTER.

7 Repeat steps 2 through 6 to store other stations.

To cancel the menu operation

Press MODE SELECT.

To tune in a station with a weak signal

Press ◀◀ or ▶▶ repeatedly in step 2 to tune in the station manually.

To set another station to an existing preset number

Start over from step 1. After step 5, press ⏮ or ⏭ to select the preset number where you want to store the other station, then press PUSH ENTER.

You can preset a new station in the selected preset number.

To erase a preset station

1 Press TUNER/BAND repeatedly to select FM or AM.
2 Press MODE SELECT repeatedly to select “Set Up Mode”, then press PUSH ENTER.
3 Move the multi stick toward ← or → repeatedly to select “TUNER Set Up ?”, then press PUSH ENTER.
4 Move the multi stick toward ← or → repeatedly to select “TUNER Erase ?”, then press PUSH ENTER.
5 Move the multi stick toward ← or → repeatedly to select the preset number you want to erase, then press PUSH ENTER.

Select “TUNER Ers FM ALL” (or “TUNER Ers AM ALL”) when you want to erase all the preset stations.

When you erase a preset number, the preset number decreases by one and all preset numbers following the erased one are renumbered.

Tip

The preset stations are retained for half a day even if you unplug the power cord or a power failure occurs.

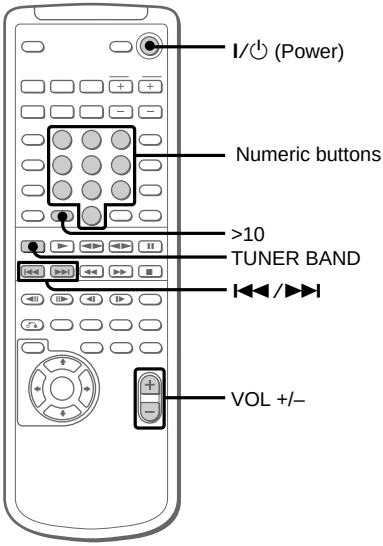
To change the AM tuning interval (Except for Middle Eastern and European models)

The AM tuning interval is factory-preset to 9 kHz (10 kHz in some areas). To switch the AM tuning interval, tune in any AM station first, then turn off the power. While holding down MODE SELECT, turn the power back on. When you switch the interval, AM preset stations are erased. To switch back to the original interval, repeat the same procedure.

Listening to the radio

— Preset Tuning

Preset radio stations in the tuner’s memory first (see “Presetting radio stations” on page 58).

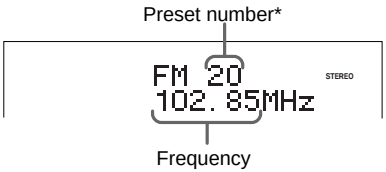


continued

1 Press TUNER/BAND repeatedly to select FM or AM.

2 Press ⏮ or ⏭ repeatedly or use the numeric buttons to tune in the desired preset station.

When you directly tune in a preset number over 10, press >10 first, then press the corresponding number buttons. (e.g. To select 20, press >10, 2, and then 10/0.) 10/0 is the button to input 10 or 0.



* When only one station is preset, “ONE PRESET” appears in the display.

To	Do this
Turn off the radio	Press I/⏻.
Adjust the volume	Press VOL +/–.

To listen to non-preset radio stations

Use manual or automatic tuning in step 2. For manual tuning, press ◀◀ or ▶▶ repeatedly. For automatic tuning, press and hold ◀◀ or ▶▶.

Tips

- Pressing TUNER/BAND when the power is off automatically turns the power on and tunes to the last received station (One Touch Play). When the system is in the Power Saving Mode, the One Touch Play function does not work.
- You can switch from another source to the radio just by pressing TUNER/BAND (Automatic Source Selection).
- When an FM program is noisy, do the following procedure:
  1. Press MODE SELECT repeatedly to select “Set Up Mode”, then press ENTER.
  2. Press ← or → repeatedly to select “TUNER Set Up ?”, then press ENTER.
  3. Press ← or → repeatedly to select “Stereo Mono ?”, then press ENTER.
  4. Press ← or → repeatedly to select “Mono”, then press ENTER.
     “Mono” appears in the display.

  There will be no stereo effect, but the reception will improve. To restore the stereo effect, repeat steps 1 through 4 and select “Stereo” in step 4.
- To improve broadcast reception, reorient the respective antenna.

Notes

- When the TUNER function is selected, there is no display on the TV screen.
- When DVD is selected as the current function and TUNER/BAND is pressed to select the TUNER function, some time may be necessary before the function can be switched.
- When you change the function from DVD to TUNER, “WAIT!” may appear on the front panel display. While this appears, there is no audio output.

Using the Radio Data System (RDS)

(For European model only)

What is the Radio Data System?

Radio Data System (RDS) is a broadcasting service that allows radio stations to send additional information along with the regular program signal. This tuner offers convenient RDS features like station name display and location of stations by program type. RDS is available only for FM stations.*

Note

RDS may not work properly if the station you are tuned to is not transmitting the RDS signal properly or if the signal strength is weak.

* Not all FM stations provide RDS service, nor do they provide the same type of services. If you are not familiar with the RDS system, check with your local radio stations for details on RDS services in your area.

Receiving RDS broadcasts

➡ Simply select a station from the FM band. When you tune in a station that provides RDS services, the station name appears in the display.

To check the RDS information

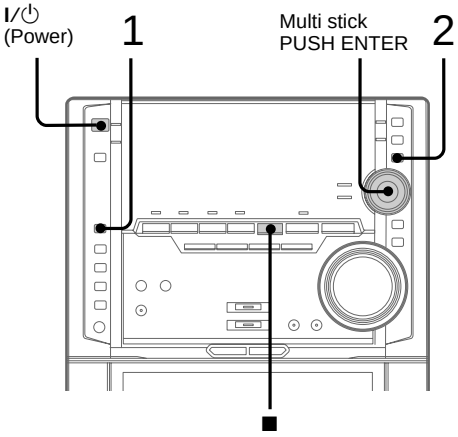
Each time you press DISPLAY, the display changes as follows:

Station name*
↓
Frequency
↓
Program type*
↓
Clock display
↓
Preset file name or
"EFFECT ON (OFF)"

* If the RDS broadcast is not received, the station name and program type may not appear in the display.

Locating a station by program type (PTY)

You can locate a station you want by selecting a program type. The unit tunes in the type of programs currently being broadcast from the RDS stations stored in the tuner's preset memory.



continued

1 Press FUNCTION repeatedly until "TUNER" appears in the display.

2 Press MODE SELECT repeatedly to select "Set Up Mode", then press PUSH ENTER.

3 Move the multi stick toward ← or → repeatedly to select "TUNER Set Up ?", then press PUSH ENTER.

4 Move the multi stick toward ← or → repeatedly to select "PTY Select ?", then press PUSH ENTER.

5 Move the multi stick toward ← or → repeatedly to select the program type you want. See the "List of program types" section below.

6 Press PUSH ENTER.

The unit starts searching the preset RDS stations ("SEARCH" and the selected program type are shown alternately in the display).

When the tuner receives a program, the preset station number flashes.

7 Move the multi stick toward ← or → repeatedly to display the preset station number you desire.

8 Press PUSH ENTER while the preset station number is flashing.

To cancel the menu operation

Press MODE SELECT.

To cancel PTY search

Press ■.

List of program types (PTY)

NEWS
News programs.

AFFAIRS
Topical programs that expand on current news.

INFO
Programs about consumer affairs, medical advice.

SPORT
Sports programs.

EDUCATE
Educational programs, such as "how-to" programs and advice.

DRAMA
Radio plays and serials.

CULTURE
Programs about national or regional culture, language, and social concerns.

SCIENCE
Programs about the natural sciences.

VARIED
Programs containing celebrity interviews, panel games, and comedy.

POP M
Popular music programs.

ROCK M
Rock music programs.

EASY M
Easy listening (middle of the road music).

LIGHT M
Classical music, such as instrumental, vocal, and choral works.

CLASSICS
Performances of major orchestras, chamber music, opera, etc.

OTHER M
Music, such as rhythm and blues and reggae.

WEATHER
Weather information.

FINANCE
Stock market reports and trading, etc.

CHILDREN
Programs for young.

SOCIAL
Programs about people and the things that affect them.

RELIGION
Programs of religious contents.

PHONE IN
Programs where members of the public express their views by phone or in a public forum.

TRAVEL
Programs about travel. Not for announcements that are located TP/TA.

LEISURE
Programs on recreational activities such as gardening, fishing, cooking, etc.

JAZZ
Jazz programs.

COUNTRY
Country music programs.

NATION M
Programs featuring the popular music of the country or region.

OLDIES
Programs featuring oldies music.

FOLK M
Folk Music Programs.

DOCUMENT
Investigative features.

TEST
Test signal for emergency broadcasts.

ALARM!
Emergency broadcasts.

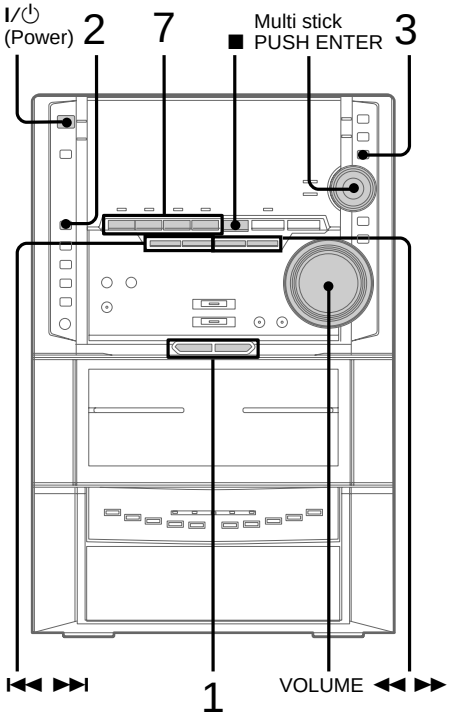
NONE
Any programming not defined above.

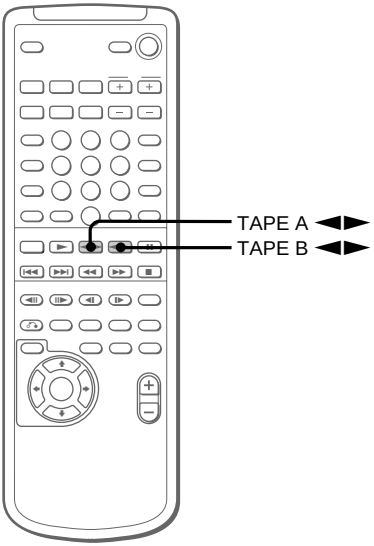
Note

"No PTY" appears when the program type you selected is not currently being broadcast.

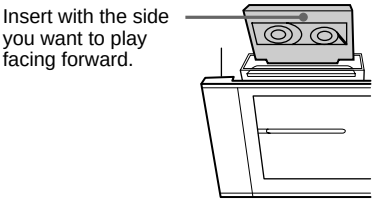
Playing a tape

You can use any type of tape, TYPE I (normal), TYPE II (CrO_2) or TYPE IV (metal), since the deck automatically detects the tape type.





1 Press ⏏ A or ⏏ B and insert a recorded tape into deck A or B.



Tape presence indicator lights in the display.

2 Press FUNCTION repeatedly to select “TAPE A” or “TAPE B”.

3 Press MODE SELECT repeatedly to select “Set Up Mode”, then press PUSH ENTER.

4 Move the multi stick toward ← or → repeatedly to select “TAPE Set Up ?”, then press PUSH ENTER.

5 Move the multi stick toward ← or → repeatedly to select “Direction Set Up ?”, then press PUSH ENTER.

6 Move the multi stick toward ← or → repeatedly to select “1 Way” to play one side, “Cycle” to play both sides, or “Relay”* to play both decks in succession, then press PUSH ENTER.

7 Press TAPE A (or TAPE B) ►.

Press TAPE A (or TAPE B) ◄ to play the reverse side. The tape starts playing.

When using the remote, press TAPE A (or TAPE B) ◄► to start playback. To play reverse side, press TAPE A (or TAPE B) ◄► again.

* Relay play always follows the following sequence:

→ Deck A (front side) → Deck A (reverse side) →
Deck B (reverse side) ← Deck B (front side) ←

To	Do this
Stop play	Press ■.
Fast-forward	Press ◄◄ or ►►.
Rewind	Press ◄◄ or ►►.
Remove the cassette	Press ⏏ A or ⏏ B.
Adjust the volume	Turn VOLUME.

- This tape deck does not have a play pause function. You cannot use ❚❚ to pause tape playback.

To cancel the menu operation

Press MODE SELECT.

Tips

- Pressing TAPE A (or TAPE B) ► or ◄ when the power is off automatically turns the power on and starts tape playback if there is a tape in the deck (One Touch Play). When the system is in the Power Saving Mode, the One Touch Play function does not work.
- You can switch from another source to the tape deck just by pressing TAPE A (or TAPE B) ► or ◄ (Automatic Source Selection).
- When you want to reduce the hiss noise in low-level high-frequency signals, do the following procedure:
  1 Press MODE SELECT repeatedly to select “Set Up Mode”, then press PUSH ENTER.
  2 Move the multi stick toward ← or → repeatedly to select “TAPE Set Up ?”, then press PUSH ENTER.
  3 Move the multi stick toward ← or → repeatedly to select “DOLBY NR Set Up ?”, then press PUSH ENTER.
  4 Move the multi stick toward ← or → repeatedly to select “On”, then press PUSH ENTER. “DOLBY NR” appears in the display.

  To return to the original setting, repeat steps 1 through 4 and select “Off” in step 4.

Searching for the beginning of a track (AMS*)

During playback, press ⏮ or ⏭ repeatedly to go forward in the same direction as the ◄ or ► indicator. Press ⏮ or ⏭ repeatedly in the opposite direction to go back.

The search direction, + (forward) or – (back), and number of songs being skipped (1~9) appear in the display.

Example: searching forward 2 songs

* AMS (Automatic Music Sensor)

continued

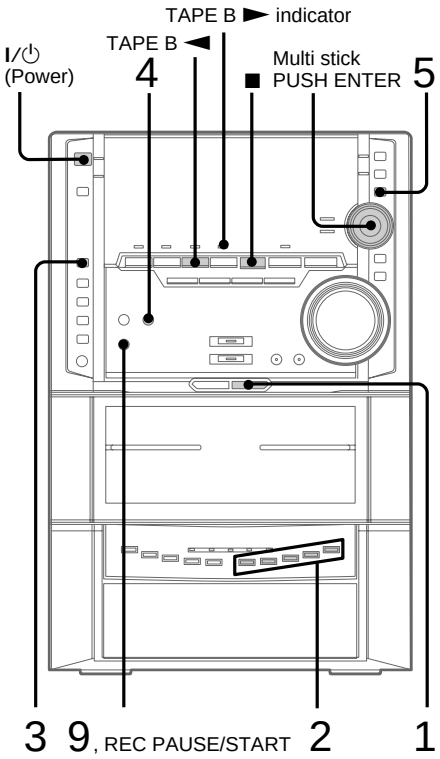
Notes

- During Cycle or Relay play, the deck stops automatically after repeating the sequence five times.
- The AMS function may not operate correctly under the following circumstances:
  - When the unrecorded space between songs is less than 4 seconds long.
  - If completely different information is recorded on the left and right channels.
  - When there are continuous sections of extremely low level or low frequency sound (like those of a baritone sax).
  - When the unit is placed near a television. (In this case, we recommend moving the unit away from the television or turning off the television.)

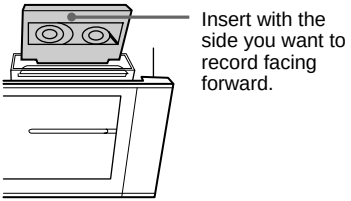
Recording a disc

— CD Synchro Recording

The CD SYNC button lets you record the audio from a VIDEO CD, or CD to a tape easily. You can use TYPE I (normal) or TYPE II (CrO_2) tapes. The recording level is adjusted automatically.



1 Press ⏏ B and insert a recordable tape into deck B.

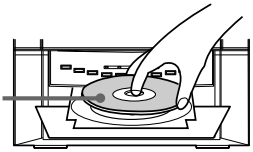


2 Press one of the ⏏ 1~5 buttons and place a disc on the disc tray.

Press the same button to close the disc tray.

If the indicator for the tray you want to record is not lit, press D.SKIP on the remote repeatedly until it lights.

Place with the label side up. When you play an 8 cm disc, place it on the inner circle of the tray.



3 Press FUNCTION repeatedly until “DVD” appears.

4 Press CD SYNC.

Deck B stands by for recording and the disc player stands by for playback. The TAPE B ► indicator (for the front side) lights and the REC PAUSE/START button flashes.

5 Press MODE SELECT repeatedly to select “Set Up Mode”, then press PUSH ENTER.

6 Move the multi stick toward ← or → repeatedly to select “TAPE Set Up ?”, then press PUSH ENTER.

7 Move the multi stick toward ← or → repeatedly to select “Direction Set Up ?”, then press PUSH ENTER.

8 Move the multi stick toward ← or → repeatedly to select “1 Way” to record on one side, or “Cycle” (or “Relay”) to record on both sides, then press PUSH ENTER.

9 Press REC PAUSE/START.

Recording starts.

To stop recording

Press ■.

To cancel the menu operation

Press MODE SELECT.

Tips

- If you want to record from the reverse side, press TAPE B ◄ to light its indicator after pressing CD SYNC.
- When you record on both sides, be sure to start from the front side. If you start from the reverse side, recording stops at the end of the reverse side.
- When you want to reduce the hiss noise in low-level high-frequency signals, do the following procedure after pressing CD SYNC.
  1 Press MODE SELECT repeatedly to select “Set Up Mode”, then press PUSH ENTER.
  2 Move the multi stick toward ← or → repeatedly to select “TAPE Set Up ?”, then press PUSH ENTER.
  3 Move the multi stick toward ← or → repeatedly to select “DOLBY NR Set Up ?”, then press PUSH ENTER.
  4 Move the multi stick toward ← or → repeatedly to select “On”, then press PUSH ENTER. “DOLBY NR” appears in the display.

  To return to the original setting, repeat steps 1 through 4 and select “Off” in step 4.

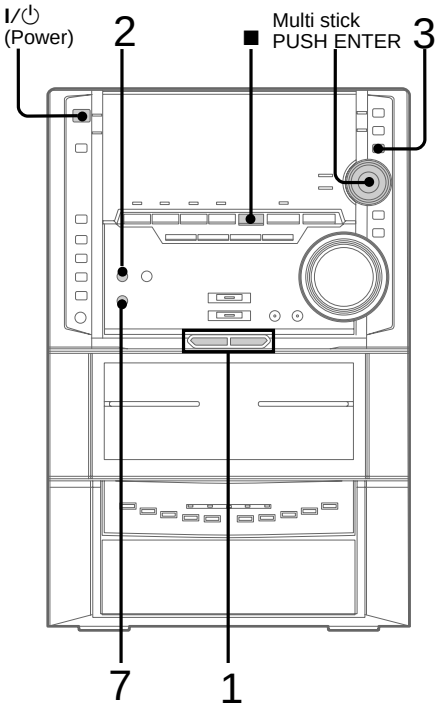
Notes

- You cannot listen to other sources while recording.
- CD Synchro Recording is not available with DVDs.

Recording from a tape

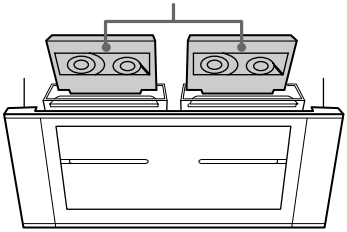
— High-speed Dubbing

You can use TYPE I (normal) or TYPE II (CrO_2) tapes. The recording level is automatically adjusted.



1 Press ⏏ A and ⏏ B and insert a recorded tape into deck A and a recordable tape into deck B.

Insert with the side you want to play/record facing forward.



2 Press HI-DUB.
Deck B stands by for recording.

3 Press MODE SELECT repeatedly to select “Set Up Mode”, then press PUSH ENTER.

4 Move the multi stick toward ← or → repeatedly to select “TAPE Set Up ?”, then press PUSH ENTER.

5 Move the multi stick toward ← or → repeatedly to select “Direction Set Up ?”, then press PUSH ENTER.

6 Move the multi stick toward ← or → repeatedly to select “1 Way” to record on one side, or “Cycle” (or “Relay”) to record on both sides, then press PUSH ENTER.

7 Press REC PAUSE/START.
Dubbing starts.

To stop dubbing

Press ■.

To cancel the menu operation

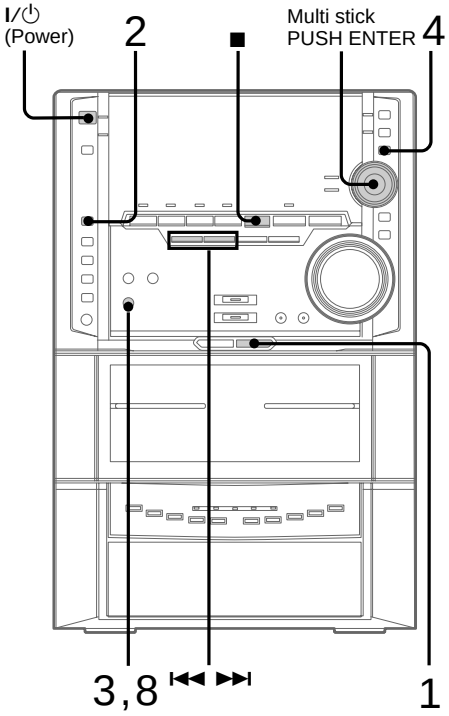
Press MODE SELECT.

Tips

- When you dub on both sides, start recording from the front side. If you record from the reverse side, recording stops at the end of the reverse side.
- If you select “Cycle” in the “Direction Set Up ?” menu when the tapes you use have different lengths, the tape in each deck reverses independently. If you select “Relay”, the tapes in both decks reverse together.
- You don’t have to set DOLBY NR, since the tape in deck B is automatically recorded in the same state as the tape in deck A.

Recording on a tape manually

You can record from a disc, tape, or radio as you like. For example, you can record just the songs you want or record from the middle of the tape. The recording level is adjusted automatically.



1 Insert a recordable tape into deck B.

2 Press FUNCTION repeatedly until the source you want to record (e.g., DVD) appears.

When recording from the radio, press TUNER/BAND repeatedly to select FM or AM, then tune in the station.

3 Press REC PAUSE/START.

Deck B stands by for recording. The TAPE B ► indicator (for front side) lights.

4 Press MODE SELECT repeatedly to select “Set Up Mode”, then press PUSH ENTER.

5 Move the multi stick toward ← or → repeatedly to select “TAPE Set Up ?”, then press PUSH ENTER.

6 Move the multi stick toward ← or → repeatedly to select “Direction Set Up ?”, then press PUSH ENTER.

7 Move the multi stick toward ← or → repeatedly to select “1 Way” to record on one side, or “Cycle” (or “Relay”) to record on both sides, then press PUSH ENTER.

8 Press REC PAUSE/START.

Recording starts.

9 Start playing the source to be recorded.

To	Press
Stop recording	■.
Pause recording	REC PAUSE/START.

To cancel the menu operation

Press MODE SELECT.

continued

Recording on a tape manually (continued)

Tips

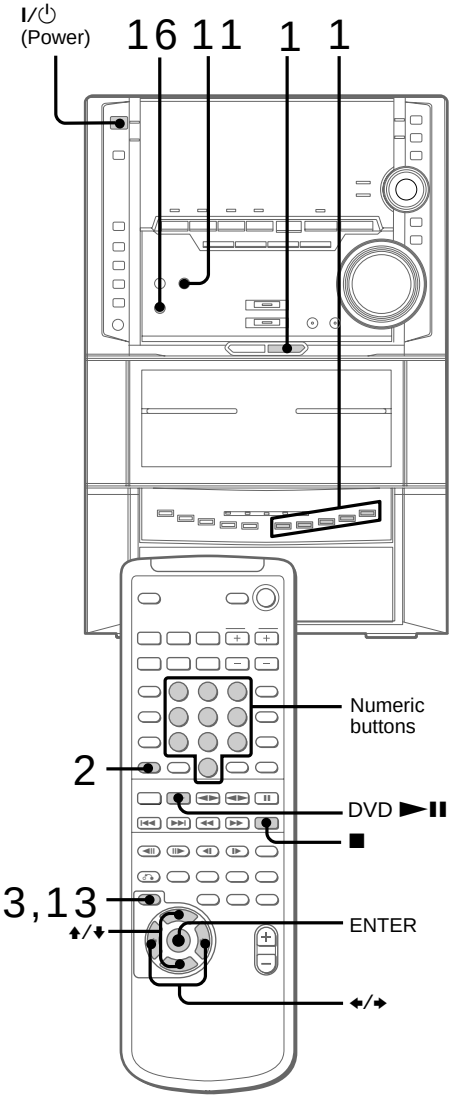
- If you want to record from the reverse side, press TAPE B ◄ to light its indicator after pressing REC PAUSE/START in step 3.
- To record non-preset stations, use ◄◄ and ►► in step 2 to tune in the desired station manually.
- When you want to reduce the hiss noise in low-level high-frequency signals, do the following procedure after pressing REC PAUSE/START in step 3.
  1 Press MODE SELECT repeatedly to select “Set Up Mode”, then press PUSH ENTER.
  2 Move the multi stick toward ← or → repeatedly to select “TAPE Set Up ?”, then press PUSH ENTER.
  3 Move the multi stick toward ← or → repeatedly to select “DOLBY NR Set Up ?”, then press PUSH ENTER.
  4 Move the multi stick toward ← or → repeatedly to select “On”, then press PUSH ENTER. “DOLBY NR” appears in the display.

  To return to the original setting, repeat steps 1 through 4 and select “Off” in step 4.
- When recording from a disc, you can use I◄◄ or ►►I to select titles, chapters, or tracks during rec pause mode (after pressing REC PAUSE/START in step 3 and before pressing again in step 8).
- If noise is heard while recording from the radio, move the respective antenna to reduce the noise.

Recording a disc by specifying the order

— Program Edit

You can record titles, chapters, and tracks from all the discs in the order you want.



1 Place a disc and insert a recordable tape into deck B.

2 Press FUNCTION repeatedly until “DVD” appears in the display.

3 While in stop mode, press MODE SELECT to select “Set Up Mode”, then press ENTER.

4 Press ← or → repeatedly to select “DVD Set Up ?”, then press ENTER.

5 Press ← or → repeatedly to select “Program Set ?”, then press ENTER.

6 Press ENTER to confirm the step number for programming.

If you want to change programmed tracks, press the numeric buttons (or ↑/↓) to select the step number, then press ENTER.

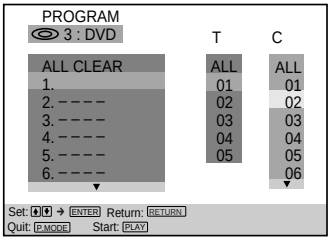
It is ready to set the title or track for programming.

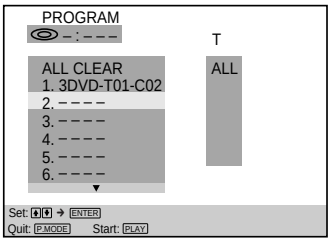
7 Press the numeric buttons (or ↑/↓) to select a disc, then press ENTER.

8 Press the numeric buttons (or ↑/↓) to select the title, chapter, or track you want, then press ENTER.

When programming a DVD:

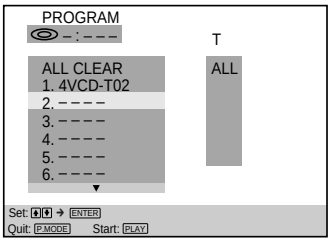
When both titles and chapters are recorded on the disc, select the title, then the chapter.





When programming a VIDEO CD or CD:

Select the track you want to program.



9 To program additional tracks to be recorded, repeat steps 6 through 8.

Skip step 8 to select tracks from the same disc.

continued

10 Press DVD ►II, and then press ■ to check the total playing time.

The total playing time appears in the display.*

If the total program time exceeds the length of the tape for recording, start again from step 3.

* If there are discs in the program whose TOC has not been read, the program screen returns after TOC reading is complete. Once the program screen returns, press DVD ►II, and then press ■.

11 Press CD SYNC.

Deck B stands by for recording and the DVD player stands by for playback. The TAPE B ► indicator (for front side) lights and the REC PAUSE/START button flashes.

12 Press MODE SELECT repeatedly to select “Set Up Mode”, then press ENTER.

13 Press ← or → repeatedly to select “TAPE Set Up ?”, then press ENTER.

14 Press ← or → repeatedly to select “Direction Set Up ?”, then press ENTER.

15 Press ← or → repeatedly to select “1 Way” to record on one side, or “Cycle” (or “Relay”) to record on both sides, then press ENTER.

16 Press REC PAUSE/START.

Recording starts.

To stop recording

Press ■.

To cancel the menu operation

Press MODE SELECT.

To check the order

1 Press FUNCTION repeatedly until “DVD” appears in the display.
2 Press MODE SELECT repeatedly to select “Set Up Mode”, then press ENTER.
3 Press ← or → repeatedly to select “DVD Set Up ?”, then press ENTER.
4 Press ← or → repeatedly to select “Program Set ?”, then press ENTER.
5 Press ← or →.
The disc number and the track number appears.
6 After checking the program, press MODE SELECT.

To cancel Program Edit

1 Press FUNCTION repeatedly until “DVD” appears in the display.
2 Press MODE SELECT repeatedly to select “Set Up Mode”, then press ENTER.
3 Press ← or → repeatedly to select “DVD Set Up ?”, then press ENTER.
4 Press ← or → repeatedly to select “Play Mode Set Up ?”, then press ENTER.
5 Press ← or → repeatedly to select “All Discs” or “1 Disc”, then press ENTER.

The tracks continue playing in their original order.

Tip

When you want to reduce the hiss noise in low-level high-frequency signals, do the following procedure after pressing CD SYNC in step 11 on the previous page.

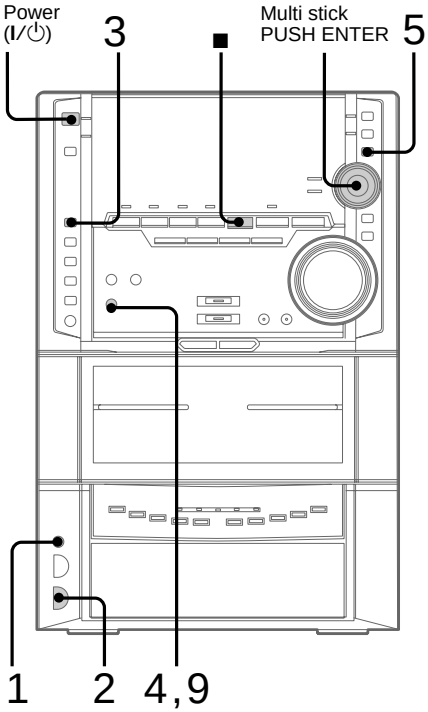
1 Press MODE SELECT repeatedly to select “Set Up Mode”, then press ENTER.
2 Press ← or → repeatedly to select “TAPE Set Up ?”, then press ENTER.
3 Press ← or → repeatedly to select “DOLBY NR Set Up ?”, then press ENTER.
4 Press ← or → repeatedly to select “On”, then press ENTER.
“DOLBY NR” appears in the display.

To return to the original setting, repeat steps 1 through 4 and select “Off” in step 4.

Mixing and recording sounds

(Asian model only)

You can “mix” sounds by playing one of the components and singing or speaking into a microphone (not supplied). The mixed sounds can be recorded on a tape.



1 Turn MIC VOL to MIN to turn down the microphone level.

2 Connect an optional microphone to MIC.

3 Press FUNCTION repeatedly until the source you want to record appears in the display (e.g., DVD).

4 Press REC PAUSE/START.
Deck B stands by for recording.

5 Press MODE SELECT repeatedly to select “Set Up Mode”, then press PUSH ENTER.

6 Move the multi stick toward ← or → repeatedly to select “TAPE Set Up ?”, then press PUSH ENTER.

7 Move the multi stick toward ← or → repeatedly to select “Direction Set Up ?”, then press PUSH ENTER.

8 Move the multi stick toward ← or → repeatedly to select “1 Way” to record on one side, or “Cycle” (or “Relay”) to record on both sides, then press PUSH ENTER.

9 Press REC PAUSE/START.
Recording starts.

10 Start playing the source to be recorded.
Start singing along with the music.

To stop recording

Press ■.

continued

When you use DVDs or VIDEO CDs

Turn on your TV and switch it to the appropriate video input.

Refer to the operating instructions supplied with your TV for details.

When you are done

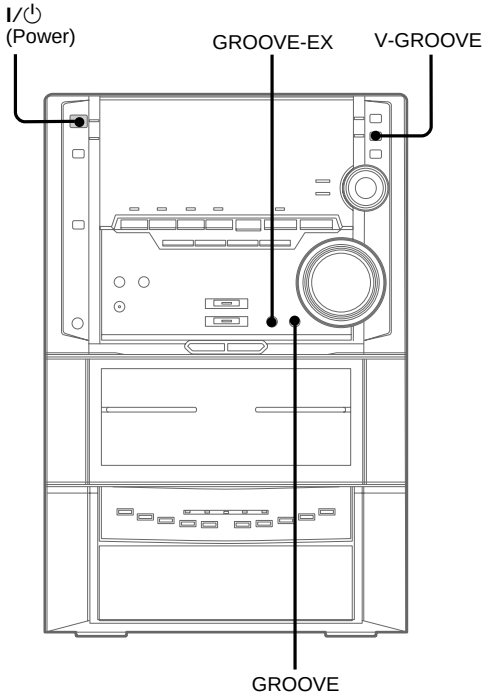
Turn MIC VOL to MIN and disconnect the microphone from MIC.

Tips

- If acoustic feedback (howling) occurs, move the microphone away from the speakers or change the direction of the microphone.
- If you want to record your voice through the microphone only, you can do so by selecting the DVD function and not playing a disc.
- When high level sound signals are input, the unit automatically adjusts the recording level to prevent distortion of the recorded sound signal (Auto Level Control function).

Adjusting the sound

You can reinforce the bass or create a more powerful sound.



For a powerful sound (GROOVE)

Press GROOVE. The volume switches to power mode, DBFB* is automatically set to full strength, the equalizer curve changes, and the GROOVE button lights. Press GROOVE again to return to the previous volume.

* DBFB = Dynamic Bass Feedback

To reinforce lower bass sound (V-GROOVE)

Press V-GROOVE. The lower bass frequencies of the music you are listening to are powerfully reinforced, DBFB is automatically set to full strength, the equalizer curve changes, loudness increases and the V-GROOVE button lights. Press V-GROOVE again to return to the previous level.

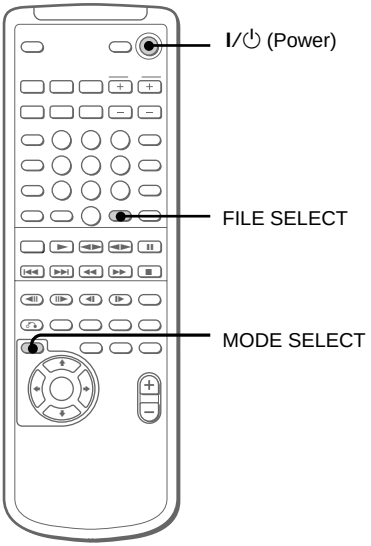
To produce a clear sound (GROOVE-EX)

Press GROOVE-EX. The higher frequencies of the music you are listening to are reinforced, DBFB is automatically set to full strength, the equalizer curve changes, loudness increases and the GROOVE-EX button lights. Press GROOVE-EX again to return to the previous level.

Selecting the preset audio effect file

The audio effect file menu lets you select the sound characteristic according to the sound you are listening to.

Selecting the effect from the music menu



➡ Press FILE SELECT repeatedly until the effect name (see the chart “Music menu options”) you want to use appears.

To cancel the effect

1 Press MODE SELECT on the unit repeatedly to select “Sound Mode”, then press PUSH ENTER.

2 Move the multi stick toward ← or → repeatedly to select “Effect On→Off”, then press PUSH ENTER.

Music menu options

Effect	For
ROCK POP JAZZ DANCE SOUL	Standard music sources
ORIENTAL ACTION DRAMA GAME SF	Soundtracks and special listening situations
P FILE 1~5	Personal file*

* The personal file function lets you store your own effects (see “Creating a personal audio effect file” on page 77).

Tip

You can also operate the system by selecting “File Select” after you press MODE SELECT to be in “Sound Mode”.

Note

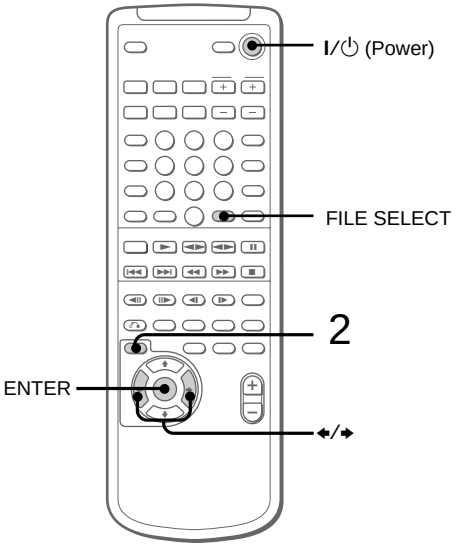
If P FILE 1~5 containing PRO LOGIC or DSP effect is selected when the DVD function is selected, PRO LOGIC or DSP effect will not function and only graphic equalizer will. PRO LOGIC or DSP effect of this system will funtion only when the system is in a funtion other than DVD.

Creating a personal audio effect file

— Personal file

You can create a personal file of audio patterns (surround effect and graphic equalizer) and store them in the memory of the unit. The personal files can later be used when you listen to a favorite tape, disc, or radio program. You can create up to five audio files.

Before operation, first select the audio effect you want for your basic sound.



1 Obtain the sound effect you want by controlling the graphic equalizer (see page 81) and selecting a surround effect (see page 79).

2 Press MODE SELECT repeatedly to select “Sound Mode”, then press ENTER.

3 Press ← or → repeatedly to select “P File Memory”, then press ENTER.

The personal file number appears in the display.

4 Press ← or → repeatedly to select the file number (P FILE 1~5) where you want to store the sound effect.

5 Press ENTER.

The adjusted sound effects are stored under the selected file number. The settings previously stored at this memory location are erased and replaced by the new settings.

To cancel the menu operation

Press MODE SELECT.

To call up the personal file

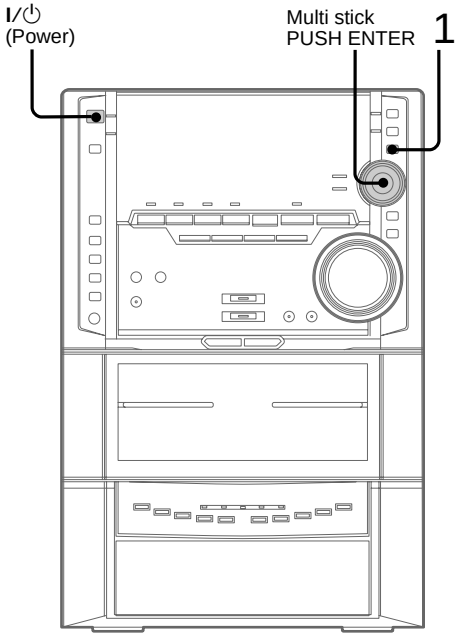
Press FILE SELECT repeatedly until the file number you want to use appears.

Tips

- The sound effects you store are retained for half a day even if you unplug the power cord or if a power failure occurs.
- While in the DVD function, only the graphic equalizer is stored.

Changing the spectrum analyzer display

You can enjoy changing the display while listening to the music.



1 Press MODE SELECT repeatedly to select “Set Up Mode”, then press PUSH ENTER.

2 Move the multi stick toward ← or → repeatedly to select “Display Set Up ?”, then press PUSH ENTER.

3 Move the multi stick toward ← or → repeatedly to select “Spectrum Set Up ?”, then press PUSH ENTER.

4 Move the multi stick toward ← or → repeatedly to select the effect you desire, then press PUSH ENTER.

Each time you move the multi stick toward ← or →, the display changes as follows:

Spectrum 1
↕
Spectrum 2
↕
Spectrum 3
↕
Spectrum Off

To cancel the menu operation

Press MODE SELECT.

To adjust the brightness of the display

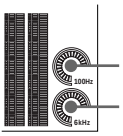
In step 3 above, select “Dimmer Set Up ?”. Move the multi stick toward ← or → repeatedly to select the effect you desire, then press PUSH ENTER.

Each time you move the multi stick toward ← or →, the display changes as follows:

Dimmer Off
↕
Dimmer 1
↕
Dimmer 2
↕
Dimmer 3
↕
Dimmer 4
↕
Dimmer 5

To check the frequency level

The meters in the display rise and fall according to the strength of beat (high frequency and low frequency).



Low frequency (around 100 Hz) meter

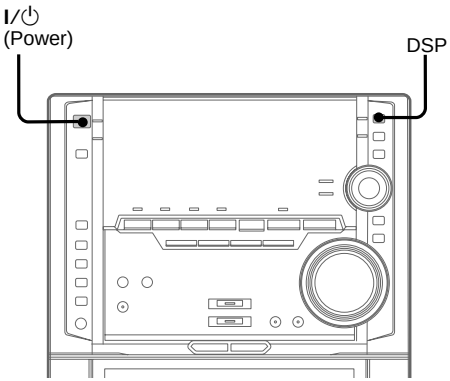
High frequency (around 6 kHz) meter

Selecting surround effects

You can enjoy surround effects.

The surround effects cannot be used when the function is set to “DVD”. When the function is changed to a function other than “DVD”, the surround setting is restored.

If you want to enjoy surround effects with DVD, VIDEO CD, or CD, select one of the “VIRTUAL 3D SURROUND” setting (see “Setting for Virtual 3D Surround” on page 36).



➡ Press DSP repeatedly to select the surround effect you desire.

SURROUND ON: Reproduces stereo sources in surround sound. *

HALL: Reproduces the acoustics of a concert hall.**

THEATER: Reproduces the acoustics of a movie theater.**

ENHANCED THEATER: Reproduces the acoustics of a large movie theater.**

DSP OFF: Turns off the DSP mode.

* “**SURROUND**” appears in the display.

**The indicator on the side of the DSP button lights.

Tip

If you want to memorize the effect, store it into a personal file (see “Creating a personal audio effect file” on page 77).

Notes

- When you choose other sound effects, the surround effects will be canceled.
- There is no sound output from the rear or center speakers when a DSP surround effect is selected other than “SURROUND ON”.

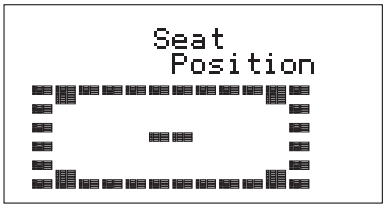
To adjust the seat position

When you select HALL, THEATER or ENHANCED THEATER, you can adjust the surround balance and feel as if you are there.

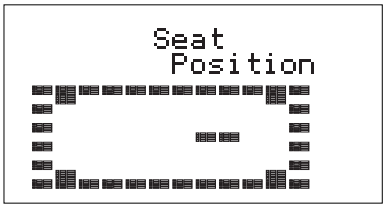
1 Press MODE SELECT repeatedly to select “Sound Mode”, then press PUSH ENTER.

2 Move the multi stick toward ← or → repeatedly to select “Seat Position”, then press PUSH ENTER.

3 Move the multi stick toward ↑ or ↓ repeatedly to adjust the front and back position (5 steps).



4 Move the multi stick toward ← or → repeatedly to adjust the left and right position (5 steps).



5 Press PUSH ENTER.

To cancel the menu operation

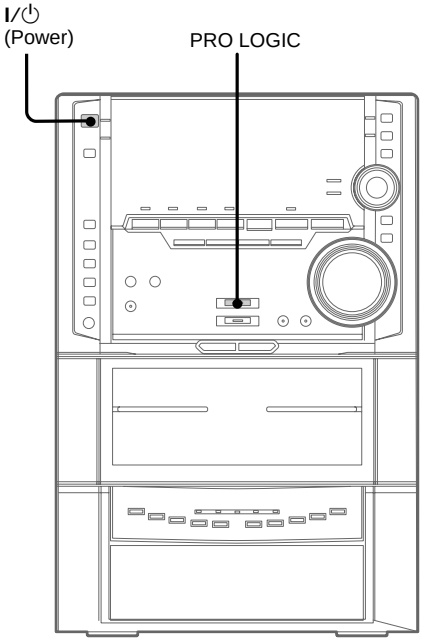
Press MODE SELECT.

Notes

- The surround balance adjusted here does not affect the Dolby Pro Logic Surround sound and DVD 5.1 CH sound.
- Under the following circumstances, DSP effects other than “SURROUND ON”, will not function.
  - When using headphones.
  - When TAPE B is in REC PAUSE mode.
  - When recording using TAPE B.

Enjoying Dolby Pro Logic Surround sound

You can enjoy the Dolby Pro Logic Surround sound of videos, MDs, tapes and tuner that are Dolby Surround encoded (DOLBY SURROUND). Complete the setup and adjustments first (see page 10).



➡ Press PRO LOGIC while playing a program source.

The indicator on PRO LOGIC button lights up.

To cancel the Dolby Pro Logic Surround sound

Press PRO LOGIC again to turn off the indicator on the PRO LOGIC button.

Notes

- You cannot use both Dolby Pro Logic Surround sound and the DSP surround effects at the same time.
- When recording, Dolby Pro Logic Surround is canceled automatically.
- Under the following circumstances, this effect will not function.
  - When using headphones.
  - When TAPE B is in REC PAUSE mode.
  - When recording using TAPE B.

To enjoy the Dolby Pro Logic Surround sound of DVDs, VIDEO CDs and CDs

Do the following operations with the remote.

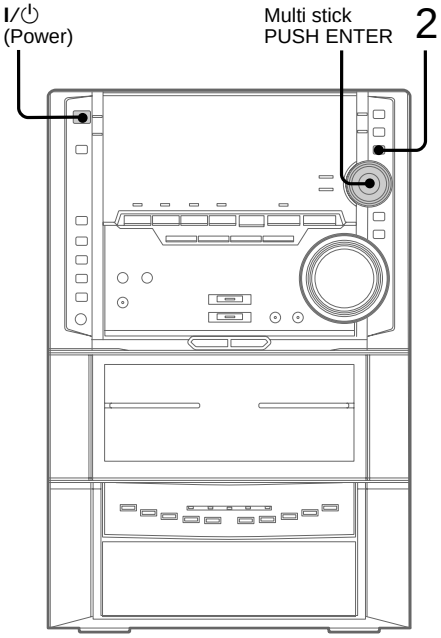
- For Dolby Pro Logic DVDs that are not recorded in multiple channels, select “NORMAL SURROUND” in VIRTUAL 3D SURROUND (see pages 36 and 37).
  DVDs that are recorded in multiple channels are automatically played in the multiple channel format.
- For VIDEO CDs and CDs, select NORMAL SURROUND (see pages 36 and 37).

The PRO LOGIC button on the main unit does not work with DVDs, VIDEO CDs and CDs.

Controlling the graphic equalizer

You can control the sound by raising or lowering the levels of specific frequency ranges.

Before operation, first select the audio effect you want for your basic sound.

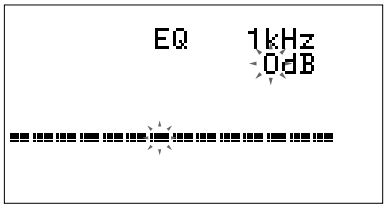


1 Select the audio effect you want for your basic sound (see “Selecting the preset audio effect file” on page 76).

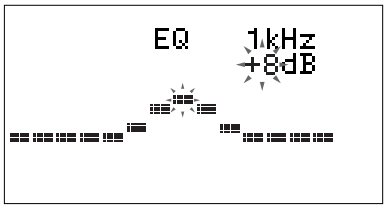
2 Press MODE SELECT repeatedly to select “Sound Mode”, then press PUSH ENTER.

3 Move the multi stick toward ← or → repeatedly to select “Equalizer Control”, then press PUSH ENTER.

4 Move the multi stick toward ← or → repeatedly to select a frequency band (5 steps).



5 Move the multi stick toward ↑ or ↓ repeatedly to adjust the level (9 steps).



6 Repeat steps 4 and 5.

7 Press PUSH ENTER when finished.

To cancel the menu operation

Press MODE SELECT.

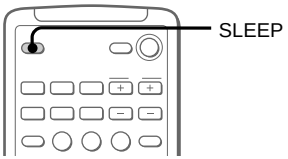
Note

If you choose another audio effect (other than “Effect Off”), the adjusted sound effect is lost. To retain the adjusted sound effect for future use, store it in a personal file. (See “Creating a personal audio effect file” on page 77.)

Falling asleep to music

— Sleep Timer

You can let the system turn off at a preset time, so you can sleep to music. You can preset the time to be turned off in 10 minute increments.



➡ Press SLEEP on the remote.

Each time you press the button, the minute display (the turn-off time) changes as follows:

Auto → 90min → 80min → 70min → … → 10min → Off → Auto …

When you choose “Auto”

The power turns off when the current disc or tape finishes playback (for up to 100 minutes).

To check the remaining time

Press SLEEP on the remote once.

To change the time to turn off

Press SLEEP on the remote repeatedly to select the time you want.

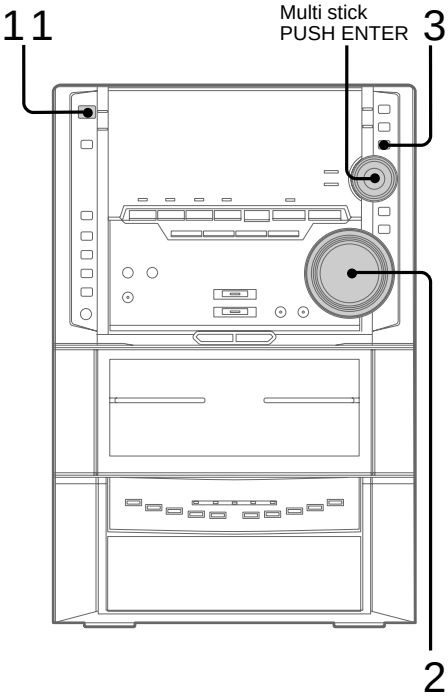
To cancel the Sleep Timer function

Press SLEEP on the remote repeatedly until “Sleep Off” appears.

Waking up to music

— Daily Timer

You can wake up to music at a preset time every day. Make sure you have set the clock (see “Step 3: Setting the time” on page 12).



1 Prepare the music source you want to play.

- DVD/VIDEO CD/CD: Insert a disc. You cannot use the Program Play function with Daily Timer.
- Tape: Insert an tape with the side you want to play facing forward.
- Radio: Tune in the preset station you want (see “Listening to the radio” on page 59).

2 Adjust the volume.

3 Press MODE SELECT repeatedly to select “Set Up Mode”, then press PUSH ENTER.

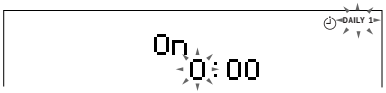
4 Move the multi stick toward ← or → repeatedly to select “Timer Set Up ?”, then press PUSH ENTER.

5 Move the multi stick toward ← or → repeatedly to select “Timer Set ?”, then press PUSH ENTER.

“Set Daily 1” appears.

6 Move the multi stick toward ← or → repeatedly to select “Daily 1 (or 2)”, then press PUSH ENTER.

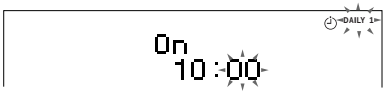
“On” appears and the hour digits flash in the display.



7 Set the time to start playback.

Move the multi stick toward ↑ or ↓ repeatedly to set the hour, then press PUSH ENTER.

The minute digits flash in the display.

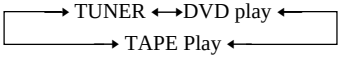


Move the multi stick toward ↑ or ↓ repeatedly to set the minute, then press PUSH ENTER.

8 Set the time to stop playback following step 7.

9 Move the multi stick toward ← or → repeatedly to select the music source you want.

Each time you move the multi stick toward ← or →, the display changes as follows.



10 Press PUSH ENTER.

The type of timer (“Daily 1” or “Daily 2”), followed by the start time, stop time, and the music source appears, then the original display appears.

11 Turn off the power.

To cancel the menu operation

Press MODE SELECT.

To check the setting

1 Press MODE SELECT repeatedly to select “Set Up Mode”, then press PUSH ENTER.

2 Move the multi stick toward ← or → repeatedly to select “Timer Set Up ?”, then press PUSH ENTER.

3 Move the multi stick toward ← or → repeatedly to select “Timer Select ?”, then press PUSH ENTER.

4 Move the multi stick toward ← or → repeatedly to select the respective mode (“Daily 1” or “Daily 2”), then press PUSH ENTER.

To change the setting, start over from step 1 on page 82.

continued

To cancel the timer operation

1 Press MODE SELECT repeatedly to select “Set Up Mode”, then press PUSH ENTER.

2 Move the multi stick toward ← or → repeatedly to select “Timer Set Up ?”, then press PUSH ENTER.

3 Move the multi stick toward ← or → repeatedly to select “Timer Select ?”, then press PUSH ENTER.

4 Move the multi stick toward ← or → repeatedly to select “Timer Off”, then press PUSH ENTER.

Tip

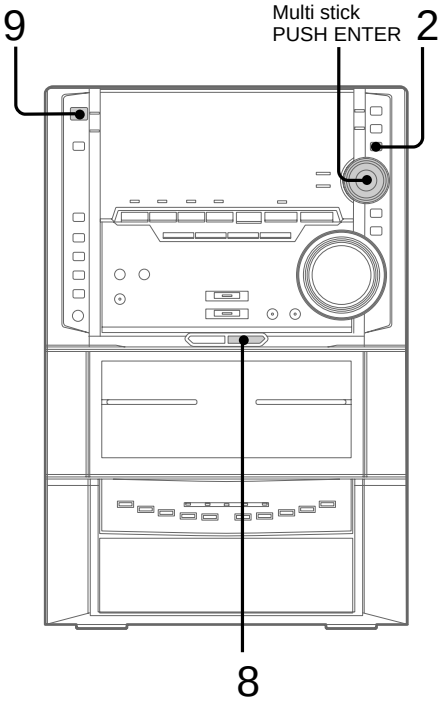
The power turns on 15 seconds before the preset time.

Notes

- You cannot activate DAILY 1 and DAILY 2 Timer at the same time.
- You cannot set the timer if the starting time and stopping time are the same.
- When you use the Sleep Timer, Daily Timer will not turn on the system until the Sleep Timer turns it off.
- You cannot activate Daily Timer and Timer-recording at the same time.

Timer-recording radio programs

To timer-record, you must preset the radio station (see “Presetting radio stations” on page 58) and set the clock (see “Step 3: Setting the time” on page 12) beforehand.



1 Tune in the preset radio station (see “Listening to the radio” on page 59).

2 Press MODE SELECT repeatedly to select “Set Up Mode”, then press PUSH ENTER.

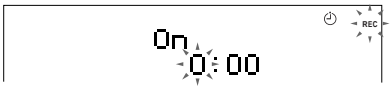
3 Move the multi stick toward ← or → repeatedly to select “Timer Set Up ?”, then press PUSH ENTER.

4 Move the multi stick toward ← or → repeatedly to select “Timer Set ?”, then press PUSH ENTER.

“Set Daily 1” appears.

5 Move the multi stick toward ← or → repeatedly to select “Set REC”, then press PUSH ENTER.

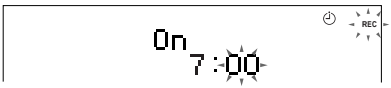
“On” appears and the hour digits flash in the display.



6 Set the time to start recording.

Move the multi stick toward ↑ or ↓ repeatedly to set the hour, then press PUSH ENTER.

The minute digits flash in the display.



Move the multi stick toward ↑ or ↓ repeatedly to set the minute, then press PUSH ENTER.

7 Set the time to stop recording following step 6.

The start time appears, followed by the stop time, the preset radio station to be recorded (e.g., “TUNER FM 5”), then the original display appears.

8 Insert a recordable tape.

9 Turn off the power.

When the recording starts, the volume level is set to the minimum.

To cancel the menu operation

Press MODE SELECT.

To check the setting

1 Press MODE SELECT repeatedly to select “Set Up Mode”, then press PUSH ENTER.
2 Move the multi stick toward ← or → repeatedly to select “Timer Set Up ?”, then press PUSH ENTER.
3 Move the multi stick toward ← or → repeatedly to select “Timer Select ?”, then press PUSH ENTER.
4 Move the multi stick toward ← or → repeatedly to select “REC”, then press PUSH ENTER.

To change the setting, start over from step 1 on page 84.

To cancel the timer operation

1 Press MODE SELECT repeatedly to select “Set Up Mode”, then press PUSH ENTER.
2 Move the multi stick toward ← or → repeatedly to select “Timer Set Up ?”, then press PUSH ENTER.
3 Move the multi stick toward ← or → repeatedly to select “Timer Select ?”, then press PUSH ENTER.
4 Move the multi stick toward ← or → repeatedly to select “Timer Off”, then press PUSH ENTER.

Notes

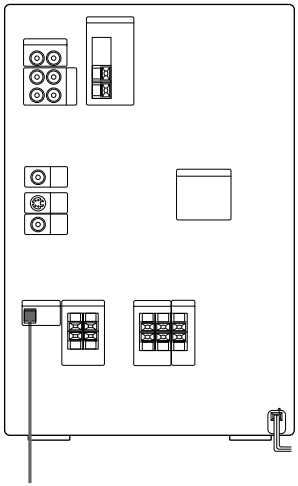
- If the power is on at the preset time, the recording will not be made.
- You cannot set the timer if the starting time and stopping time are the same.
- When you use the Sleep Timer, Timer-recording will not turn on the system until the Sleep Timer turns it off.
- You cannot activate Timer-recording and Daily Timer at the same time.

Connecting audio components

Do the following connections depending on the equipment to be connected and the method of connecting. Refer to the instructions of each component.

Connecting an MD deck for digital recording

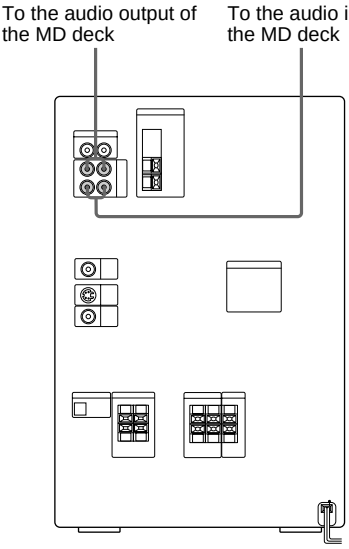
You can record from a CD into the MD deck digitally by connecting an optical cable.



To the digital input of the MD deck

Connecting an MD deck for analog recording

Make sure to match the color of the plugs and the connectors. To listen to the sound of the connected MD deck, press FUNCTION repeatedly until "MD" appears.

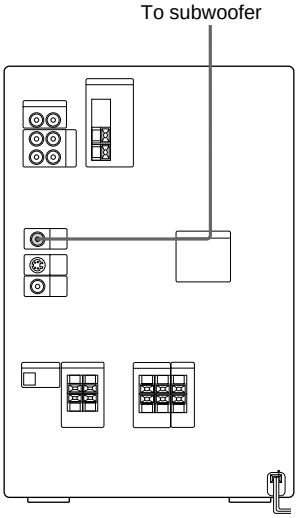


Note

There is no audio output from the MD OUT jacks when the channel mode is in MULTI. When making a recording, switch to 2CH by pressing MULTI/2CH.

Connecting a subwoofer speaker

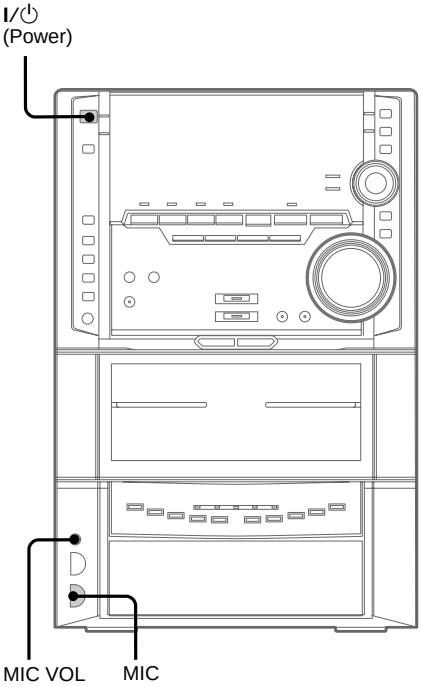
You can connect an optional subwoofer speaker.



Connecting a microphone

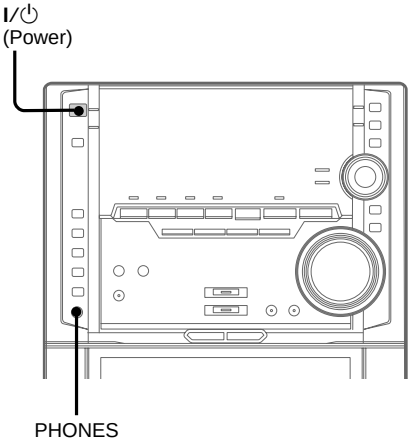
(Asian model only)

You can connect an optional microphone to the MIC jack. Adjust the microphone volume by turning MIC VOL.



Connecting headphones

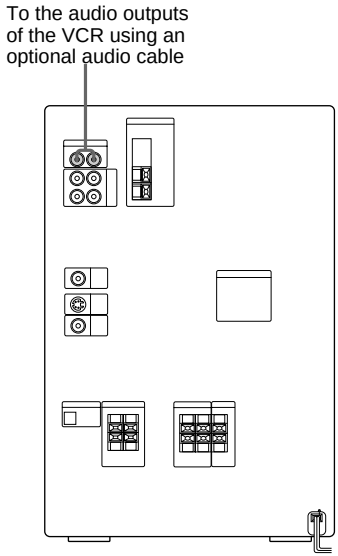
You can connect headphones to the PHONES jack. No sound will come out of the speakers.



Connecting a VCR

Make sure to match the color of the plugs and the connectors. To listen to the sound of the connected VCR, press FUNCTION repeatedly until “VIDEO” appears.

By connecting the audio output jacks of your VCR to the VIDEO (AUDIO) IN jacks using an optional audio cable, you can enjoy video playback in powerful stereo sound.



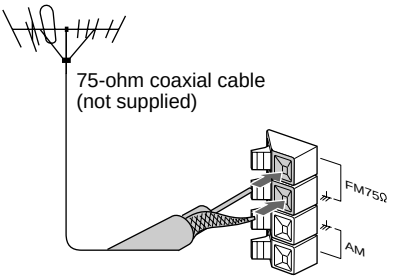
Connecting external antennas

Connect the external antenna to improve the reception. Refer to the instructions of each component.

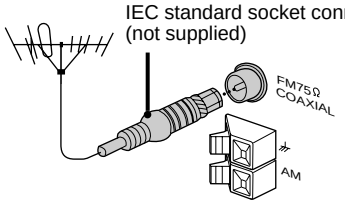
FM antenna

Connect the optional FM external antenna. You can also use the TV antenna instead.

Jack type Ⓐ



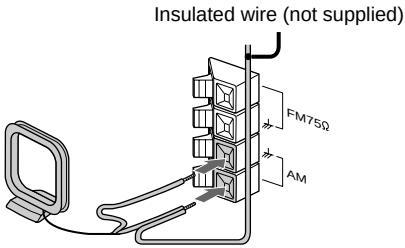
Jack type Ⓑ



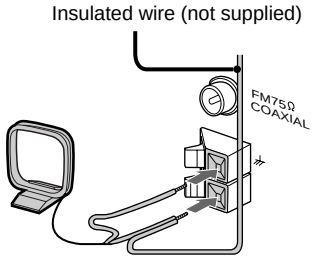
AM antenna

Connect a 6- to 15- meter insulated wire to the AM antenna terminal. Leave the supplied AM loop antenna connected.

Jack type Ⓐ



Jack type Ⓑ



Precautions

On operating voltage

Before operating the system, check that the operating voltage of your system is identical with the voltage of your local power supply.

On safety

- The unit is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the unit itself has been turned off.
- Unplug the system from the wall outlet (mains) if it is not to be used for an extended period of time. To disconnect the cord (mains lead), pull it out by the plug. Never pull the cord itself.
- Should any solid object or liquid fall into the component, unplug the stereo system and have the component checked by qualified personnel before operating it any further.
- The AC power cord must be changed only at a qualified service shop.

On placement

- Place the unit in a location with adequate ventilation to prevent heat build-up in the unit.
- Do not place the unit in an inclined position.
- Do not place the unit in locations where it is;
  — extremely hot or cold
  — dusty or dirty
  — very humid
  — vibrating
  — subject to direct sunlight.

On operation

- If the unit is brought directly from a cold to a warm location, or is placed in a very damp room, moisture may condense on the lens inside the DVD player. Should this occur, the system will not operate properly. Remove all discs in the unit and leave the system turned on for about an hour until the moisture evaporates.
- When you move the system, take out any discs.

If you have any questions or problems concerning your system, please consult your nearest Sony dealer.

On transporting the system

Follow the instructions below before transporting the system to prevent any damage to the DVD player if dropped accidentally:

1 Remove all discs from the disc trays.
If you leave any discs inside the disc trays, you may not be able to remove them later.
2 Press ⏏ 1 and place the dummy disc on the disc tray. Do not press ⏏ 1 again to close the disc tray.
3 Press I/⏻.
The disc tray closes automatically, and the system turns off.
4 After the front panel display turns off, unplug the AC power cord.

Notes on discs

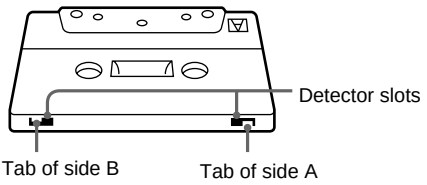
- Before playing, clean the disc with a cleaning cloth. Wipe the disc from the center out.
- Do not use solvents such as benzene, thinner, commercially available cleaners or anti-static spray intended for vinyl LPs.
- Do not expose the disc to direct sunlight or heat sources such as hot air ducts, nor leave it in a car parked in direct sunlight.
- Do not use discs encircled with a protection ring. This may cause a malfunction to the system.
- When using discs that have glue or similar tacky substance on the label side of the disc or that used a special ink when the label was printed, there is a chance that the disc or label may become attached to parts inside this unit. When this occurs, it may not be possible to remove the disc, and may also cause this unit to malfunction. Be sure to check that the label side of the disc is not sticky before using.
  The following types of disc should not be used:
  — Rental or used discs with attached seals where the glue extends beyond the seal. The perimeter of the seal on the disc is tacky.
  — Discs that have labels printed using a special ink that feels tacky when touched.

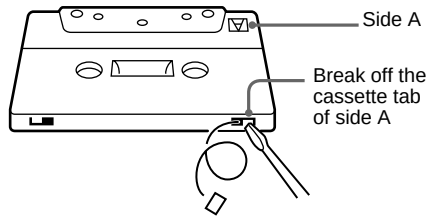
Cleaning the cabinet

Use a soft cloth slightly moistened with mild detergent solution.

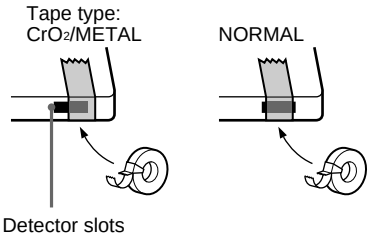
To save a tape permanently

To prevent a tape from being accidentally recorded over, break off the cassette tab from side A or B as illustrated.





If you later want to reuse the tape for recording, cover the broken tab with adhesive tape. However, be careful not to cover the detector slots which allow the tape player to automatically detect the type of tape.



Before placing a cassette in the tape deck

Take up any slack in the tape. Otherwise the tape may get entangled in the parts of the tape deck and become damaged.

When using a tape longer than 90 minutes

The tape is very elastic. Do not change the tape operations such as play, stop, and fast-winding, etc. frequently. The tape may get entangled in the tape deck.

Cleaning the tape heads

Clean the tape heads after every 10 hours of use. When the tape heads become dirty;

— the sound is distorted
— there is a decrease in sound level
— the sound drops out
— the tape does not erase completely
— the tape does not record.

Make sure to clean the tape heads before you start an important recording or after playing an old tape. Use separately sold dry-type or wet-type cleaning cassette. For details, refer to the instructions of the cleaning cassette.

Demagnetizing the tape heads

Demagnetize the tape heads and the metal parts that have contact with the tape every 20 to 30 hours of use with a separately sold demagnetizing cassette. For details, refer to the instructions of the demagnetizing cassette.

Troubleshooting

If you run into any problem using this system, use the following check list.

First, check that the power cord is connected firmly and the speakers are connected correctly and firmly.

Should any problem persist, consult your nearest Sony dealer.

General

The display starts flashing as soon as you plug in the power cord even though you haven't turned on the power (demonstration mode).

- Press DISPLAY repeatedly when the power is turned off. The demonstration disappears.

The clock setting/radio presetting/timer is canceled.

- The power cord is disconnected or a power failure occurs longer than half a day.
  Redo the following:
  — "Step 3: Setting the time" on page 12.
  — "Presetting radio stations" on page 58.
  If you have set the timer, also redo "Waking up to music" on page 82 and "Timer-recording radio programs" on page 84.

There is no sound.

- Rotate VOLUME clockwise.
- Headphones are connected.
- Insert only the stripped portion of the speaker cord into the SPEAKER jack. Inserting the vinyl portion of the speaker cord will obstruct the speaker connections.
- There is no audio output during timer recording.

continued

There is severe hum or noise.

- A TV or VCR is placed too close to the system. Move the system away from the TV or VCR.

"--:--" appears in the display.

- A power interruption occurred. Set the clock and timer settings again.

The timer does not function.

- Set the clock correctly.

"Daily 1", "Daily 2", or "REC" does not appear when you select "Timer Select ?" menu.

- Set the timer correctly.
- Set the clock.

The remote does not function.

- There is an obstacle between the remote and the system.
- The remote is not pointing in the direction of the system's sensor.
- The batteries have run down. Replace the batteries.

There is acoustic feedback.

- Decrease the volume level.
- Move the microphone away from the speakers or change the direction of the microphone.

The color irregularity on a TV screen persists.

- Turn off the TV set once, then turn it on after 15 to 30 minutes. If the color irregularity still persists, place the speakers farther away from the TV set.

"PROTECT" and "PUSH POWER" appear alternately.

- A strong signal was input. Press I/⏻ to turn off the power, leave the system turned off for a while, then press I/⏻ again to turn on the power.
  If "PROTECT" and "PUSH POWER" appear alternately even after the power is turned on again, press I/⏻ to turn off the power and check the speaker cords.

Speakers

Sound comes from one channel or unbalanced left and right volume.

- Check the speaker connection and speaker placement.

The sound comes from the center speaker only.

- The source being played back is monaural. Press PRO LOGIC to turn off the Pro Logic mode.

There is no sound from the center speaker.

- Set the CENTER LEVEL to the appropriate level.

There is no sound from the rear speakers.

- Set the REAR LEVEL to the appropriate level.
- The software being played back has limited sound effects. Check the volume with the test tone.

Sound lacks bass.

- Check that the speaker's + and – jacks are connected correctly.

DVD/VIDEO CD/CD Player

The disc tray does not close.

- The disc is not placed properly.

The disc will not play.

- The disc is not lying flat in the disc tray.
- The disc is dirty.
- The disc is inserted label side down.
- Moisture condensation has built up. Remove the disc and leave the system turned on for about an hour until the moisture evaporates.

Play does not start from the first track.

- The player is in program or shuffle mode. Select "1 Disc" or "All Discs" in the "Play Mode" menu (pages 25, 26).

Picture

There is no picture.

- Press FUNCTION repeatedly until "DVD" appears in the display.
- Check that the player is connected securely.
- The video connecting cord is damaged. Replace it with a new one.
- Make sure you connect the player to the video input connector on the TV (page 8).
- Make sure you turn on the TV.
- Make sure you select the video input on the TV so that you can view the pictures from the player.

The picture noise appears.

- Clean the disc.
- If video from your DVD player has to go through your VCR to get to your TV, the copy-protection applied to some DVD programs could affect picture quality. If you still experience problems after checking your connections, please try connecting your DVD player directly to your TV's S video-input, if your TV is equipped with this input (page 8).
- The picture noise appears when the player is connected to the TV via the video deck. Do not connect the player to the video deck. Connect the player directly to the TV (page 8).
- For Asian models, the color system is different. Set the color system to match your TV (page 8).

The aspect ratio of the screen cannot be changed even though you set "TV TYPE" in "SCREEN SETUP" in the setup display when you play a wide picture.

- The aspect ratio is fixed on your DVD.
- If you connect the player with the S video cord, connect directly to the TV. Otherwise, you may not change the aspect ratio.
- Depending on the TV, you may not change the aspect ratio.

The player does not play from the beginning when playing a disc.

- Repeat Play, Shuffle Play, or Program Play has been selected (pages 39 to 44).
- Resume Play has been selected. Press ■ on the front panel or on the remote before you start playing (page 25).
- A title menu or a DVD menu automatically appears on the TV screen when you play your DVD, or a setup display automatically appears on the TV screen when you play your VIDEO CD with PBC functions.

The player starts playing the DVD automatically.

- The DVD features the auto playback function.

Stopping playback, Search, Slow-motion Play, Repeat Play, Shuffle Play or Program Play, etc., cannot be done.

- Depending on the disc, you may not do some of the operations above.

Messages do not appear on the TV screen in the language you want.

- In the setup display, select the language for the on-screen display in "OSD" under "LANGUAGE SETUP" (page 15).

The language for the sound cannot be changed when you play a DVD.

- Multilingual sound is not recorded on the DVD.
- Changing the language for the sound is prohibited on the DVD.

The language for the subtitles cannot be changed when you play a DVD.

- Multilingual subtitles are not recorded on the DVD.
- Changing the language for the subtitles is prohibited on the DVD.

The subtitles cannot be turned off when you play a DVD.

- Depending on the DVD, you may not be able to turn the subtitles off.

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continued

The angles cannot be changed when you play a DVD.

- Multi-angles are not recorded on the DVD.
- Change the angles when “ANGLE” appears on the front panel display (page 50).
- Changing the angles is prohibited on the DVD.

Tape Deck

The tape does not record.

- No tape in the cassette holder.
- The tab has been removed from the cassette (see “To save a tape permanently” on page 90).
- The tape has reeled to the end.

The tape does not record nor play or there is a decrease in sound level.

- The heads are dirty. Clean them (see “Cleaning the tape heads” on page 91).
- The record/playback heads are magnetized. Demagnetize them (see “Demagnetizing the tape heads” on page 91).

The tape does not erase completely.

- The record/playback heads are magnetized. Demagnetize them (see “Demagnetizing the tape heads” on page 91).

There is excessive wow or flutter, or the sound drops out.

- The capstans or pinch rollers are dirty. Clean them (see “Cleaning the tape heads” on page 91).

Noise increases or the high frequencies are erased.

- The record/playback heads are magnetized. Demagnetize them (see “Demagnetizing the tape heads” on page 91).

After pressing ► (◄) or ⏏, there is a mechanical noise, “EJECT” appears in the display, and the unit enters standby mode automatically.

- The cassette tape was not inserted correctly. Eject the tape and turn the power back on.

Tuner

Severe hum or noise (“TUNED” or “STEREO” flashes in the display).

- Adjust the antenna.
- The signal strength is too weak. Connect the external antenna.

A stereo FM program cannot be received in stereo.

- Select “Stereo” in the “Stereo Mono ?” menu.

If other troubles not described above occur, reset the system as follows:

1 Unplug the power cord.

2 Plug the power cord back in.

3 Press ■, DISPLAY, and DISC 5 at the same time.

4 Press I/⏻ to turn on the power.

The system is reset to the factory settings except for DVD settings. All the settings other than DVD settings you made, such as the preset stations, clock, and timer are cleared. You should set them again.

Specifications

Amplifier section

AUDIO POWER SPECIFICATIONS: (U.S.A. model only)

POWER OUTPUT AND TOTAL HARMONIC DISTORTION:
with 8 ohm loads both channels driven, from 120-10,000 Hz; rates 90 watts per channel minimum RMS power, with no more than 10% total harmonic distortion from 250 milliwatts to rated output.

Total harmonics distortion
Less than 0.07%
(8 ohms at 1 kHz, 50 W)

Center Speaker:
Continuous RMS power output
40 watts
(8 ohms at 1 kHz,
10% THD)

Rear Speaker:
Continuous RMS power output
40 + 40 watts
(8 ohms at 1 kHz,
10% THD)

Canadian model:

Front Speaker:
Continuous RMS power output
100 + 100 watts
(8 ohms at 1 kHz,
10% THD)
Total harmonics distortion
Less than 0.07%
(8 ohms at 1 kHz, 50 W)

Center Speaker:
Continuous RMS power output
40 watts
(8 ohms at 1 kHz,
10% THD)

Rear Speaker:
Continuous RMS power output
40 + 40 watts
(8 ohms at 1 kHz,
10% THD)

European model:

Front Speaker:
DIN power output (rated) 80 + 80 watts
(8 ohms at 1 kHz, DIN)
Continuous RMS power output (reference)
100 + 100 watts
(8 ohms at 1 kHz,
10% THD)
Music power output (reference)
170 + 170 watts
(8 ohms at 1 kHz,
10% THD)

Center Speaker:
DIN power output (rated) 30 watts
(8 ohms at 1 kHz, DIN)
Continuous RMS power output (reference)
40 watts
(8 ohms at 1 kHz,
10% THD)
Music power output (reference)
60 watts
(8 ohms at 1 kHz,
10% THD)

Rear Speaker:
DIN power output (rated) 30 + 30 watts
(8 ohms at 1 kHz, DIN)
Continuous RMS power output (reference)
40 + 40 watts
(8 ohms at 1 kHz,
10% THD)
Music power output (reference)
60 + 60 watts
(8 ohms at 1 kHz,
10% THD)

Other models:

The following measured at AC 120/220/240 V, 50/60 Hz

Front Speaker:
DIN power output (rated) 95 + 95 watts
(8 ohms at 1 kHz, DIN)
Continuous RMS power output (reference)
120 + 120 watts
(8 ohms at 1 kHz,
10% THD)

Center Speaker:
DIN power output (rated) 30 watts
(8 ohms at 1 kHz, DIN)
Continuous RMS power output (reference)
40 watts
(8 ohms at 1 kHz,
10% THD)

Rear Speaker:
DIN power output (rated) 30 + 30 watts
(8 ohms at 1 kHz, DIN)
Continuous RMS power output (reference)
40 + 40 watts
(8 ohms at 1 kHz,
10% THD)

continued

Inputs

VIDEO (AUDIO) IN:	voltage 250 mV,
(phono jacks)	impedance 47 kilohms
MD IN:	voltage 450 mV,
(phono jacks)	impedance 47 kilohms
MIC:	sensitivity 1 mV,
(mini jack)	impedance 10 kilohms
(Asian model only)	

Outputs

MD OUT:	voltage 250 mV
(phono jacks)	impedance 1 kilohms
VIDEO OUT:	max. output level
(phono jack)	1Vp-p, unbalanced, Sync negative, load impedance 75 ohms
S-VIDEO OUT:	Y: 1Vp-p, unbalanced,
(4-pin/mini-DIN jack)	Sync negative, C: 0.286Vp-p, load impedance 75 ohms
PHONES:	accepts headphones of
(stereo mini jack)	8 ohms or more
FRONT SPEAKER:	accepts impedance of 8 to 16 ohms
REAR SPEAKER:	accepts impedance of 8 to 16 ohms
CENTER SPEAKER:	accepts impedance of 8 to 16 ohms
WOOFER OUT:	Voltage 1 V, impedance 1 kilohms

DVD player section

Laser	Semiconductor laser
Frequency response	DVD (PCM 48 kHz): 2 Hz – 22 kHz = (±1 dB)
	CD: 2Hz – 20 kHz = (±1 dB)
Signal-to-noise ratio	More than 90 dB
Dynamic range	More than 90 dB
Video color system format	NTSC, PAL

DIGITAL OUT OPTICAL
(Square optical connector jack, rear panel)

Wavelength	660 nm
Output Level	–18 dBm

Tape player section

Recording system	4-track 2-channel stereo
Frequency response	40 – 13,000 Hz (±3 dB),
(DOLBY NR OFF)	using Sony TYPE I cassette
	40 – 14,000 Hz (±3 dB), using Sony TYPE II cassette
Wow and flutter	±0.15% W.Peak (IEC) 0.1% W.RMS (NAB) ±0.2% W.Peak (DIN)

Tuner section

FM stereo, FM/AM superheterodyne tuner

FM tuner section

Tuning range

North American model:	87.5 – 108.0 MHz (100 kHz step)
Other models:	87.5 – 108.0 MHz (50 kHz step)
Antenna	FM antenna
Antenna terminals	75 ohm unbalanced
Intermediate frequency	10.7 MHz

AM tuner section

Tuning range

North American model:	530 – 1,710 kHz (with the interval set at 10 kHz)
	531 – 1,710 kHz (with the interval set at 9 kHz)
European and Middle Eastern models:	
	531 – 1,602 kHz (with the interval set at 9 kHz)
Other models:	531 – 1,602 kHz (with the interval set at 9 kHz)
	530 – 1,710 kHz (with the interval set at 10 kHz)
Antenna	AM loop antenna
Antenna terminals	External antenna terminal
Intermediate frequency	450 kHz

Speaker

Front Speaker:

SS-ZX70DVD for MHC-ZX70DVD (North American and European models)

Speaker system	3-way, bass-reflex type, magnetically shielded type
Speaker units	
Woofer:	17 cm, cone type
Tweeter:	5 cm, cone type
Super Tweeter:	4 cm, cone type
Nominal impedance	8 ohms
Dimensions (w/h/d)	Approx. 250 x 375 x 285 mm
Mass	Approx. 5.5 kg net per speaker

SS-ZX70DVDW for MHC-ZX70DVD (Other models)

Speaker system	3-way, bass-reflex type, magnetically shielded type
Speaker units	
Woofer:	15 cm, cone type
Super woofer:	15 cm, cone type
Tweeter:	5 cm, cone type
Nominal impedance	8 ohms
Dimensions (w/h/d)	Approx. 250 x 375 x 325 mm
Mass	Approx. 7.0 kg net per speaker

Rear Speaker (SS-RS170P):

Speaker system	1-way, 1-unit, bass-reflex type
Speaker units	
Full-range:	8 cm, cone type
Nominal impedance	8 ohms
Dimensions (w/h/d)	Approx. 195 x 105 x 135 mm
Mass	Approx. 1.0 kg net per speaker

Center Speaker (SS-CT170):

Speaker system	1-way, 1-unit, bass-reflex type, magnetically shielded
Speaker units	
Full-range:	8 cm, cone type
Nominal impedance	8 ohms
Dimensions (w/h/d)	Approx. 220 x 105 x 135 mm
Mass	Approx. 1.1 kg net

For the customers in Canada

Use only the supplied SS-RS170P rear speaker for connection to the REAR SPEAKER jacks, the supplied SS-CT170 center speaker for connection to the CENTER SPEAKER jacks on the MHC-ZX70DVD.

General

Power requirements	
North American model:	120 V AC, 60 Hz
European model:	230 V AC, 50/60 Hz
Australian model:	230 – 240 V AC, 50/60 Hz
Mexican model:	120 V AC, 60 Hz
Thai and Chinese models:	220 V AC, 50/60 Hz
Other models:	120 V, 220 V or 230 – 240 V AC, 50/60 Hz Adjustable with voltage selector
Power consumption	
North American model:	220 watts
European model:	220 watts
Other models:	230 watts
Dimensions (w/h/d)	Approx. 250 x 375 x 395 mm
Mass	
North American model:	Approx. 13.2 kg
European model:	Approx. 13.0 kg
Other models:	Approx. 13.5 kg
Supplied accessories:	AM loop antenna (1) FM antenna (1) Remote Commander (1) Batteries (2) Video cable (1) Speaker cords (5) Front speaker pads (8)

Design and specifications are subject to change without notice.

GLOSSARY

Bit rate

Value indicating the amount of video data compressed in a DVD per second. The unit is Mbps (Mega bits per second). 1 Mbps indicates that the data per second is 1,000,000 bits. The higher the bit rate is, the larger the amount of data. However, this does not always mean that you can get higher quality pictures.

Dolby Digital

Digital audio compression technology that the Dolby Laboratories Corporation developed. This technology conforms to 5.1-channel surround sound. The rear channel is stereo and there is discrete subwoofer channel in this format. Dolby Digital provides the same 5.1 discrete channels of high quality digital audio found in Dolby Digital cinema audio systems. The good channel separation is realized because the all channel data is recorded discrete and processed in digital.

Dolby Pro Logic

Audio signal processing technology that Dolby Laboratories Corporation developed for surround sound. When the input signal has the surround component, the Pro Logic process outputs the front, center and rear signals. The rear channel is monaural.

DVD

A disc that contains up to 8 hours of moving pictures even though its diameter is the same as a CD.

The data capacity of a single-layer and single-sided DVD, at 4.7 GB (Giga Byte), is 7 times that of a CD. Furthermore, the data capacity of a dual-layer and single-sided DVD is 8.5 GB, a single-layer and double-sided DVD 9.4 GB, and a dual-layer and double-sided DVD 17 GB.

The picture data uses the MPEG 2 format, one of the worldwide standards of digital compression technology. The picture data is compressed to about 1/40 of its original size. The DVD also uses the variable rate coding technology that changes the data to be allocated according to the status of the picture.

The audio data is recorded in Dolby Digital as well as in PCM, allowing you to enjoy more real audio presence.

Furthermore, various advanced functions such as the multi-angle, multilingual, and Parental Control functions are provided with the DVD.

MPEG AUDIO

International standard coding system to compress audio digital signals authorized by ISO/IEC. MPEG 1 conforms to up to 2-channel stereo. MPEG 2 used on DVDs conforms to up to 7.1-channel surround.

Multi-angle function

Various angles, or viewpoints of the video camera, for a scene are recorded on some DVDs.

Multilingual function

Several languages for the sound or subtitles in a picture are recorded on some DVDs.

Parental Control

A function of the DVD to limit playback of the disc by the age of the users according to the limitation level in each country. The limitation varies from disc to disc; when it is activated, playback is completely prohibited, violent scenes are skipped or replaced with other scenes and so on.

Playback Control (PBC)

Signals encoded on VIDEO CDs (Version 2.0) to control playback.

By using menu screens recorded on VIDEO CDs with PBC functions, you can enjoy playing simple interactive programs, programs with search functions, and so on.

VIDEO CD

A compact disc that contains moving pictures.

The picture data uses the MPEG 1 format, one of the worldwide standards of digital compression technology. The picture data is compressed to about 1/140 of its original size. Consequently, a 12 cm VIDEO CD can contain up to 74 minutes of moving pictures.

VIDEO CDs also contain compact audio data. Sounds outside the range of human hearing are compressed while the sounds we can hear are not compressed. VIDEO CDs can hold 6 times the audio information of conventional audio CDs.

There are 2 versions of VIDEO CDs.

- Version 1.1: You can play only moving pictures and sounds.
- Version 2.0: You can play high-resolution still pictures and enjoy PBC functions.

This player conforms to both versions.

Parts Identification for the remote

You can also operate the system with the supplied remote.

* You can operate with the remote only.

** These buttons do not operate when the function is set to “DVD”.

TV

Remote Button(s)	Function
TV I/⏻*	Turn the TV on or off.
TV/VIDEO*	Switch the TV's video input.
TV CH +/–*	Change the TV channels.
TV VOL +/–*	Adjusts the volume of the TV speaker(s).

TUNER

Remote Button(s)	Function
TUNER/BAND	Selects FM or AM.
⏮/⏭ (+, –)	Selects a preset number.
◀◀/▶▶	Scans for a station or selects a preset station.
numeric buttons >10*	Select a preset number.

continued

DVD/VIDEO CD/CD

Remote Button(s)	Function
DVD ►	Starts playback.
■	Stops playback.
❚❚	Pauses playback.
I◄◄ /►►I (PREV/NEXT)	Selects a chapter or track. For VIDEO CD, use NEXT to see the rest of the menu, and use PREV to go back to the top of the menu.
◄◄/►►	Locates a desired point in a track.
STEP ◄II/II►*	Performs frame by frame playback of DVD and VIDEO CD.
SLOW ◄I/I►*	Performs slow playback of DVD and VIDEO CD.
D.SKIP	Exchanges discs.
Numeric buttons*	Use for the menu operations.
DVD SETUP*	Displays the setup display on the TV screen.
RETURN↶	Returns to previously selected screen.
AUDIO*	Changes the audio sound track.
ANGLE*	Changes the angles when playing a DVD.
SUBTITLE*	Changes the subtitle language.
TITLE	Displays the title menu on the TV screen.
DVD MENU	Displays the DVD menu on the TV screen.
DVD DISPLAY*	Displays the control menu screens.
DISPLAY	Changes the front panel display.

TAPE

Remote Button(s)	Function
TAPE A ◄► TAPE B ◄►	Starts playback. Each time you press this button, the tape reverses direction.
■	Stops playback.
I◄◄ /►►I	Searches for the beginning of a Track (AMS: Automatic Music Sensor).
◄◄/►►	Fast-forwards or rewinds.

TIMER

Remote Button(s)	Function
SLEEP*	Selects a sleep timer.

OTHERS

Remote Button(s)	Function
I/⏻	Turns the system on or off.
VOL +/–	Adjusts the volume.
←/→/↑/↓ ENTER	Use to select menu and adjust the settings.
FUNCTION	Selects the function.
CLEAR*	Restores a setting to the factory preset.
MODE SELECT	Enters the menu mode.
FILE SELECT	Selects the preset audio effect file.
MD*	Press to listen to the connected MD deck.
VIDEO*	Press to listen to the connected VCR.
MULTI/2CH	Press to switch between multi channel and stereo audio.
PRO LOGIC ON/OFF	Activates the Pro Logic effects.
T.TONE ON/OFF*,**	Use to test each speaker's volume.
DSP	Activates the surround effects.
CENTER LEVEL +/–*,**	Adjusts the center speaker level.
REAR LEVEL +/–*,**	Adjusts the rear speaker level.

Language Code List

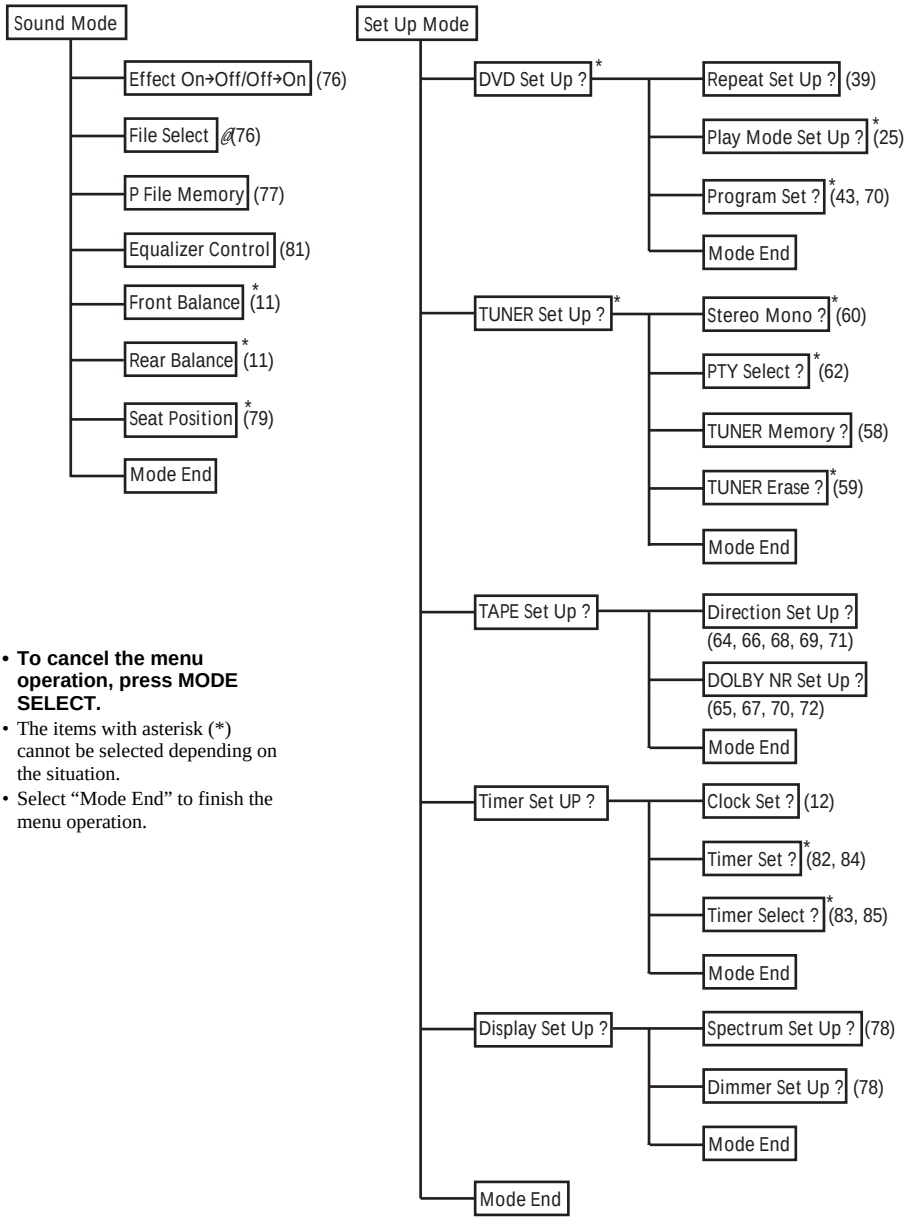
For details, see page 15, 47.

The language spellings conform to the ISO 639: 1988 (E/F) standard.

Code	Language	Code	Language	Code	Language	Code	Language
1027	Afar	1186	Scots Gaelic	1350	Malayalam	1513	Siswati
1028	Abkhazian	1194	Galician	1352	Mongolian	1514	Sesotho
1032	Afrikaans	1196	Guarani	1353	Moldavian	1515	Sundanese
1039	Amharic	1203	Gujarati	1356	Marathi	1516	Swedish
1044	Arabic	1209	Hausa	1357	Malay	1517	Swahili
1045	Assamese	1217	Hindi	1358	Maltese	1521	Tamil
1051	Aymara	1226	Croatian	1363	Burmese	1525	Telugu
1052	Azerbaijani	1229	Hungarian	1365	Nauru	1527	Tajik
1053	Bashkir	1233	Armenian	1369	Nepali	1528	Thai
1057	Byelorussian	1235	Interlingua	1376	Dutch	1529	Tigrinya
1059	Bulgarian	1239	Interlingue	1379	Norwegian	1531	Turkmen
1060	Bihari	1245	Inupiak	1393	Occitan	1532	Tagalog
1061	Bislama	1248	Indonesian	1403	(Afan) Oromo	1534	Setswana
1066	Bengali; Bangla	1253	Icelandic	1408	Oriya	1535	Tonga
1067	Tibetan	1254	Italian	1417	Punjabi	1538	Turkish
1070	Breton	1257	Hebrew	1428	Polish	1539	Tsonga
1079	Catalan	1261	Japanese	1435	Pashto; Pushto	1540	Tatar
1093	Corsican	1269	Yiddish	1436	Portuguese	1543	Twi
1097	Czech	1283	Javanese	1463	Quechua	1557	Ukrainian
1103	Welsh	1287	Georgian	1481	Rhaeto-Romance	1564	Urdu
1105	Danish	1297	Kazakh	1482	Kirundi	1572	Uzbek
1109	German	1298	Greenlandic	1483	Romanian	1581	Vietnamese
1130	Bhutani	1299	Cambodian	1489	Russian	1587	Volapük
1142	Greek	1300	Kannada	1491	Kinyarwanda	1613	Wolof
1144	English	1301	Korean	1495	Sanskrit	1632	Xhosa
1145	Esperanto	1305	Kashmiri	1498	Sindhi	1665	Yoruba
1149	Spanish	1307	Kurdish	1501	Sangho	1684	Chinese
1150	Estonian	1311	Kirghiz	1502	Serbo-Croatian	1697	Zulu
1151	Basque	1313	Latin	1503	Singhalese	1703	Not specified
1157	Persian	1326	Lingala	1505	Slovak		
1165	Finnish	1327	Laothian	1506	Slovenian		
1166	Fiji	1332	Lithuanian	1507	Samoan		
1171	Faroese	1334	Latvian; Lettish	1508	Shona		
1174	French	1345	Malagasy	1509	Somali		
1181	Frisian	1347	Maori	1511	Albanian		
1183	Irish	1349	Macedonian	1512	Serbian		

Items in “Sound Mode” and “Set Up Mode”

The numbers in parenthesis denotes the page number for the item.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Display Set Up ?
Spectrum Set Up ? (78)
Dimmer Set Up ? (78)
Mode End
Mode End

- **To cancel the menu operation, press MODE SELECT.**
- The items with asterisk (*) cannot be selected depending on the situation.
- Select “Mode End” to finish the menu operation.

Control Menu Item List

TITLE (45) — Displayed during DVD playback. You can perform a search by using the numeric buttons to input a title number.

CHAPTER (45) — Displayed during DVD playback. You can perform a search by using the numeric buttons to input a chapter number.

TRACK (51) — Displayed during VIDEO CD and CD playback. You can perform a search by using the numeric buttons to input a track number.

INDEX (51) — Displayed during VIDEO CD and CD playback. You can perform a search by using the numeric buttons to input an index number.

SCENE (51) — Displayed during playback of VIDEO CDs with PBC functions. You can perform a search by using the numeric buttons to input a scene number and pressing ENTER.

TIME/TEXT (46) — During DVD playback, you can switch between the playing time and remaining time of the current title and chapter. During DVD playback, you can switch between the playing time and the remaining time of the track and disc. You can perform a search by using the numeric buttons to input a time.

AUDIO (48) — During DVD playback, you can switch between the different languages recorded on the disc. During VIDEO CD and CD playback, you can switch between stereo and individual monaural right and left channels.

SUBTITLE (47) — DVD only.
During DVD playback, you can switch between the different subtitle languages on the disc.

1/ALL DISCS (39) — You can switch to playback all of the discs or only the disc you have selected.
- ALL DISC
- 1 DISC

REPEAT (39) — You can set the Repeat Play mode.
- OFF
- DISC
- TITLE
- CHAPTER

A-B REPEAT (41) — You can set the specific section of a disc to repeat.
-
- OFF

VIRTUAL 3D SURROUND (36) — Select the mode to enjoy multi-channel surround sound such as Dolby Digital and MPEG.
- VES A
- VES B
- NORMAL SURROUND
- ENHANCED SURROUND
- VIRTUAL REAR SHIFT
- VIRTUAL MULTI REAR

ADVANCED (53) — DVD only.
- BIT RATE — Video and MPEG2 Audio information is displayed in a bar graph. Dolby Digital/LPCM audio information is displayed as a number value.
- BIT RATE HISTORY — (Video only) The top and bottom values are displayed in a bar graph.
- LAYER — The current location of playback on the disc is displayed in a graphic representation.
- OFF

continued

Control Menu Item List (continued)

STROBE PLAYBACK (55) — DVD and VIDEO CD only.
You can view strobe playback as each video frame is displayed in succession on a screen divided into 9 sections.

TITLE VIEWER (56) ———DVD only.
You can see the beginning screen of each title on a DVD. As many as 9 titles can be displayed on the screen at once. Use ↑/↓/←/→ to make a selection, and then press ENTER to start playback at the selected title.

CHAPTER VIEWER (56) — DVD only.
You can see the beginning screen of each chapter in the currently selected title on a DVD. As many as 9 chapters can be displayed on the screen at once. Use ↑/↓/←/→ to make a selection, and then press ENTER to start playback at the selected chapter.

TRACK VIEWER (56) —— VIDEO CD only.
You can see the beginning screen of each track on a VIDEO CD. As many as 9 tracks can be displayed on the screen at once. Use ↑/↓/←/→ to make a selection, and then press ENTER to start playback at the selected track.

DVD Setup Menu List

You can set the following items with the DVD setup menu.

The order of the displayed items may be different from the actual display.

LANGUAGE

- OSD — (Select the language you want to use from the displayed language list)
- DVD MENU — (Select the language you want to use from the displayed language list)
- AUDIO — (Select the language you want to use from the displayed language list. When you select ORIGINAL, you can enjoy the language given priority on the disc.)
- SUBTITLE — (Select the language you want to use from the displayed language list. When you select AUDIO FOLLOW, the setting is automatically switched to the language selected in AUDIO.)

SCREEN

- TV TYPE
  - 4:3 LETTER BOX
  - 4:3 PAN SCAN
  - 16:9/4:3 WIDE MODE*
- SCREEN SAVER
  - ON
  - OFF
- BACKGROUND
  - JACKET PICTURE
  - GRAPHICS
  - BLUE
  - BLACK

AUDIO

- TRACK SELECTION
  - OFF
  - AUTO
- DIGITAL OUT
  - ON
  - OFF
  - DOLBY DIGITAL
    - D-PCM
    - DOLBY DIGITAL

SPEAKER

- SETUP
  - FRONT — YES
  - CENTER — YES
  - REAR
    - BEHIND
    - SIDE
  - SUBWOOFER
    - YES
    - NONE
- DISTANCE
  - FRONT — 4ft ~ 50ft/ 1m ~ 15m
  - CENTER — 4ft ~ 52ft/ 1m ~ 15.6m
  - REAR — 4ft ~ 50ft/ 1m ~ 15m
- BALANCE
  - FRONT — –6 dB ~ +6 dB
  - REAR — –6 dB ~ +6 dB
- LEVEL
  - CENTER — –10 dB ~ +6 dB
  - REAR — –10 dB ~ +6 dB
  - SUBWOOFER — –10 dB ~ +6 dB
- TEST TONE
  - OFF
  - ON

* For European and Asian models, “16:9” is displayed.

**Asian model only.

CUSTOM

- COLOR SYSTEM**
  - AUTO
  - PAL
  - NTSC
- PAUSE MODE
  - AUTO
  - FRAME
- PARENTAL CONTROL
  - LEVEL
    - OFF
    - 8.
    - 7. NC17
    - 6. R
    - 5.
    - 4. PG13
    - 3. PG
    - 2.
    - 1. G
  - STANDARD
    - USA
    - OTHERS
  - CHANGE PASSWORD

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Sony Corporation Printed in China